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FOR IBM PERSONAL COMPUTER USERS

PC TECH JOURNAL®



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Vol. 1, No. 1 to Vol. 4, No. 10

COMPREHENSIVE PRODUCT GUIDE
Hardware and Software for IBM Standard Computers

PROGRAMMER'S REFERENCE
Assembly Language Pull-out Card

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NEW SPECIAL!

Turbo Pascal® 3.0

"*For the IBM PC, the benchmark Pascal compiler is undoubtedly Borland International's Turbo Pascal*," says Gary Ray of *PC Week*. We and more than 500,000 other people around the world think Mr. Ray got that right. Since launch, Turbo Pascal has become the *de facto* worldwide standard in high-speed Pascal compilers. Described by Jeff Duntemann of *PC Magazine* as the "*Language deal of the century*," Turbo Pascal is now an even better deal than that—because we've *included* the most popular options (BCD reals and 8087 support). What used to cost $124.95 is now only $99.95! You now get a lot more for a lot less: the compiler, a completely integrated programming environment, and BCD reals and 8087 support—all for a suggested retail of only $99.95.

Borland's Business Productivity Programs:

Reflex: The Analyst™ Analytical database manager. Provides complete new look at data normally hidden by programs like 1-2-3® and dBASE.® Best report generator for 1-2-3.

NEW! ***Reflex Workshop***™ Important new addition to Reflex: The Analyst. Gives you 22 different templates to run your business right.

SideKick® Complete RAM-resident desktop management includes notepad, dialer, calculator and more.

Traveling SideKick™ Electronic version of business/personal diaries, daytime organizers; works with your SideKick files; important professional tool.

SuperKey® Keyboard enhancer. Simple macros turn 1000 keystrokes into 1. Also encrypts your files to keep confidential files confidential.

Borland's Electronic Reference Programs:

Turbo Lightning™ Works with all your programs and checks your spelling *while you type*! Includes 80,000-word Random House® Concise Dictionary and 50,000-word Random House Thesaurus. Forerunner of Turbo Lightning Library.

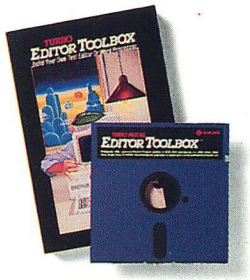
Lightning Word Wizard™ Includes ingenious crossword solver and six other word challenges. If you're into programming, Lightning Word Wizard is also a development toolbox and the technical reference manual for Turbo Lightning.

COMPLETELY NEW VERSION!



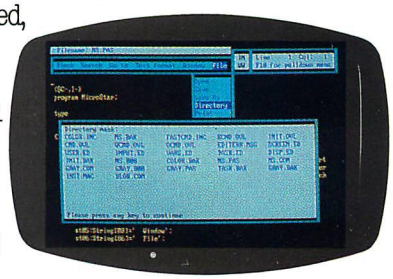
Turbo Tutor® 2.0

Just released (July '86), the new Turbo Tutor can take you from "What's a computer?" on through to complex data structures, assembly languages, trees, tips on writing long programs in Turbo Pascal, and a high level of expertise. Source code for everything is included. New split screens allow you to put source text in the bottom half of the screen and run the examples in the top half. There are quizzes that ask you, show you, tell you, teach you. You get a 450-page manual—which is not as daunting as it sounds, because unlike many software manuals, it was not written by orangutans. (With our all "almost-free" upgrade, you can upgrade to Turbo Tutor 2.0 by sending us your master diskettes, proof of purchase, and $10.00, which covers shipping and handling.) Suggested retail: $39.95.

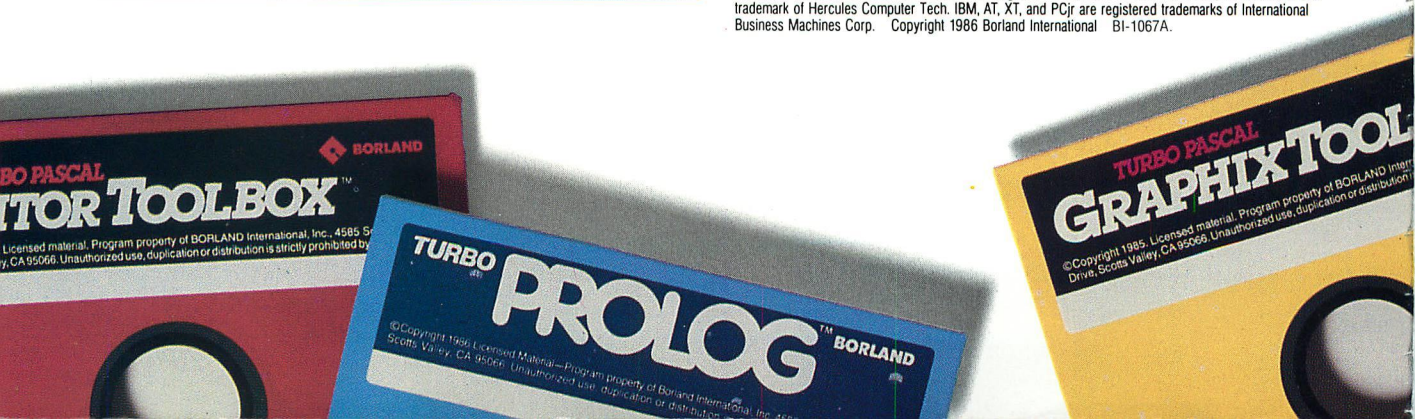


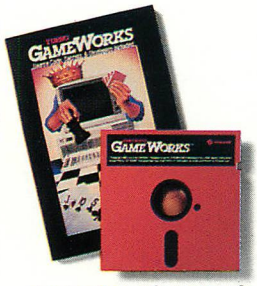
Turbo Editor Toolbox™

Recently released, we called our new Turbo Editor Toolbox a "construction set to write your own word processor." Peter Feldmann of *PC Magazine* covered it pretty well with, "*A 'write your own word processor' program for intermediate level programmers, with lots of help in the form of prewritten procedures covering everything from word wrap to pull-down windows.*" Source code is included, and we also include MicroStar, a full-blown text editor with pull-down menus and windowing. It interfaces directly with Turbo Lightning to let you spell-check your MicroStar files. Jerry Pournelle of *BYTE* magazine said, "*The new Turbo Editor Toolbox is the Turbo Pascal source code to just about anything you ever wanted a PC-compatible text editor to do.*" Suggested retail: $69.95.



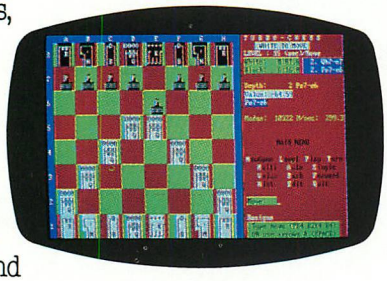
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Turbo GameWorks™

Also recently released, Turbo GameWorks is what you think it is: "Games" and "Works." Games you can play right away (like Chess, Bridge and Go-Moku), plus the Works—which is how computer games work. All the secrets and strategies of game theory are there for you to learn. You can play the games "as is" or modify them any which way you want. Source code is included to let you do that, and whether you want to write your own games or simply play the off-the-shelf games, Turbo GameWorks will give hours of diversion, education, and intrigue. George Koltanowski, Dean of American Chess, and former President, United States Chess Federation, reacted to Turbo GameWorks like this, "*With Turbo GameWorks, you're on your way to becoming a master chess player,*" and Kit Woolsey, writer, author, and twice Champion of the Blue Ribbon Pairs, wrote, "*Now play the world's most popular card game—Bridge . . . even program your own bidding or scoring conventions.*" Suggested retail: $69.95.



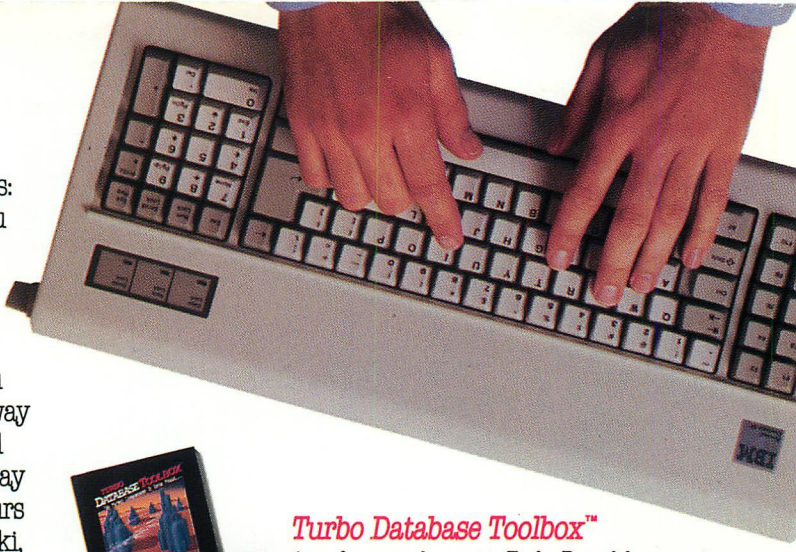


Turbo Graphix Toolbox™

It includes a library of graphics routines for Turbo Pascal programs. Lets even beginning programmers create high-resolution graphics with an IBM, Hercules,™ or compatible graphics adapter. Our Turbo Graphix Toolbox includes all the tools you'll ever need for complex business graphics, easy windowing, and storing screen images to memory. It comes complete with source code, ready to compile. Suggested retail: $69.95.



Recognition for Borland International has come from business, trade, and media, and includes both product awards and awards for technical excellence and marketing. Borland was named "Company of the Year" by PC Magazine; Sidekick, the #1 best seller for the IBM PC, was named "Product of the Year" by InfoWorld; Turbo Pascal was selected one of PC Week's Top 10 Products for 1984; SuperKey won one of PC Magazine's "Best of 1985" awards; Reflex, The Analyst was recognized in the "Software Products of the Year" awards by InfoWorld; and Reflex and SideKick were both nominated for British Micro Awards in 1986.





Turbo Database Toolbox™

A perfect complement to Turbo Pascal, because it contains a complete library of Pascal procedures that allows you to search and sort data and build powerful database applications. Having Turbo Database Toolbox means you don't have to reinvent the wheel each time you write a Turbo Pascal program. It comes with source code for a free sample database—right on disk. The database can be searched by keywords or numbers. Update, add, or delete records as needed. Just compile it and it's ready to go to work for you. Suggested retail: $69.95.

Technical Specifications:

TURBO PASCAL 3.0 Minimum memory:128K; includes 8087 and BCD features for 16-bit MS-DOS and CP/M-86 systems. CP/M-80 version minimum memory: 48K; 8087 and BCD features not available

TURBO DATABASE TOOLBOX Minimum memory: 128K. CP/M-80 minimum memory: 48K. Requires Turbo Pascal 2.0 or later.

TURBO GRAPHIX TOOLBOX* Minimum memory: 192K. Requires PC/MS-DOS 2.0 or later, Turbo Pascal 3.0, and IBM CGA, Hercules Monochrome Card or equivalent.

TURBO TUTOR 2.0 Minimum memory: 192K. CP/M-80 version minimum memory 48K. Requires PC/MS-DOS 2.0 or later and Turbo Pascal 3.0.

TURBO EDITOR TOOLBOX* Minimum memory: 192K. Requires PC/MS-DOS 2.0 or later and Turbo Pascal 3.0.

TURBO GAMEWORKS* Minimum memory: 192K. Requires PC/MS-DOS 2.0 or later and Turbo Pascal 3.0.

TURBO PROLOG* Minimum memory: 384K.

REFLEX: THE ANALYST* Minimum memory: 384K. Requires IBM CGA, Hercules Monochrome Card or equivalent. Works with Intel's AboveBoard-PC and -AT; AST's RAMpage! and RAMpage! AT; Quadram's Liberty-PC and -AT; Tecmar's 640 Plus; IBM's EGA and 3270/PC; AT&T's 6300 and many others.

REFLEX WORKSHOP* Minimum memory: 384K. Requires Reflex: The Analyst. Two disk drives or hard disk recommended.

TURBO LIGHTNING* Minimum memory: 256K. Two disk drives required. Hard disk recommended.

LIGHTNING WORD WIZARD* Minimum memory: 256K. Requires Turbo Lightning. Turbo Pascal 3.0 required to edit source code.

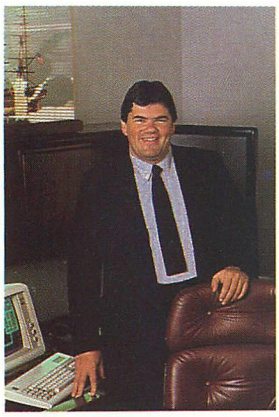
SIDEKICK* Minimum memory: 128K.

TRAVELING SIDEKICK* Minimum memory: 256K.

SUPERKEY* Minimum memory: 128K.

*For IBM PC, AT, XT, PCjr and true compatibles only, running PC/MS-DOS 2.0 or later.





We frequently surprise people with inventive, imaginative software, and people frequently surprise us with the way *they* use it.

For example, you'll read on this page how Michael J. Watkins of the Petroleum Technology Center in Houston, Texas, used Turbo Pascal® (and Turbo Graphix Toolbox™ and Turbo Tutor®) to cut down the tedium and time in creating Circular Performance Profile Charts (CPPCs).

We didn't know they existed, but you learn something new every day!

Applications like CPPCs might not fit your exact needs, but at the same time they might stimulate fresh ideas in your mind about how you can put Turbo Pascal and the Turbo Pascal family to work for you.

And thank you for your interest in and support for Borland International.

Philippe Kahn,
President, Borland International

INSIDE STORIES!

- Turbo Pascal 3.0, already described by *PC Magazine* as "*Language deal of the century*," is now an even better deal than that, because we've included the most popular options (BCD reals and 8087 support). What used to cost $124.95 is now only $99.95!
- Completely new Turbo Tutor 2.0 now available. New software. New manual. New split screens. New quizzes. Only $39.95. Upgrades available under Borland's "Almost-Free" upgrade plan. Details inside.

LATE NEWS!

- June/July Special Artificial Intelligence Issue of The *Micro Technical Journal* says, "*Turbo Prolog looks like it's going to be a winner, for both the beginner and professional programmer.*"

Turbo Pascal deliberately programmed to go around in circles

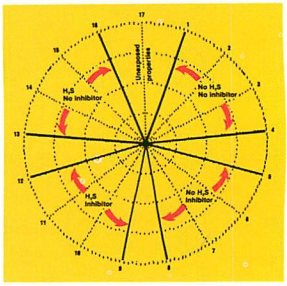
Circular charts (or CPPCs) are used by Michael J. Watkins of the Petroleum Technology Center in Houston, Texas, to plot a single performance property for a large number of elastomers, which have elastic, rubber-like properties.

Mr. Watkins wrote us saying, "*Because CPPCs condense a lot of data in one graphic, they can be very tedious and time-consuming to draw.*"

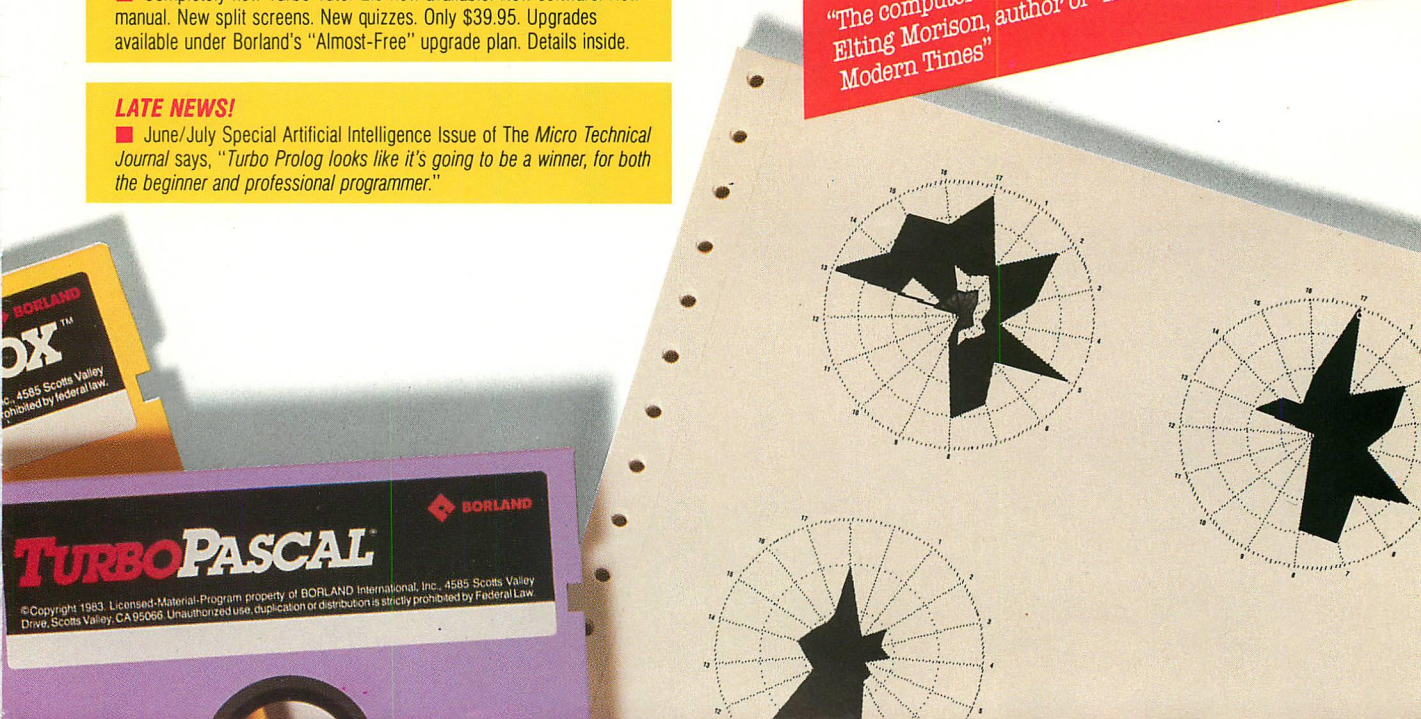
What he did to solve those problems was to write a Turbo Pascal program for IBM® personal computers to "*generate these charts quickly and easily.*"

He used Turbo Pascal "*because it has a companion set of very powerful graphics programs (Turbo Graphix Toolbox) which greatly simplifies the required programming.*

Turbo Pascal is not a difficult language to use and can be easily learned by persons who can program in FORTRAN or BASIC. An excellent tutorial (Turbo Tutor) is available for the novice or experienced programmer. The Turbo Pascal products are also very moderately priced."

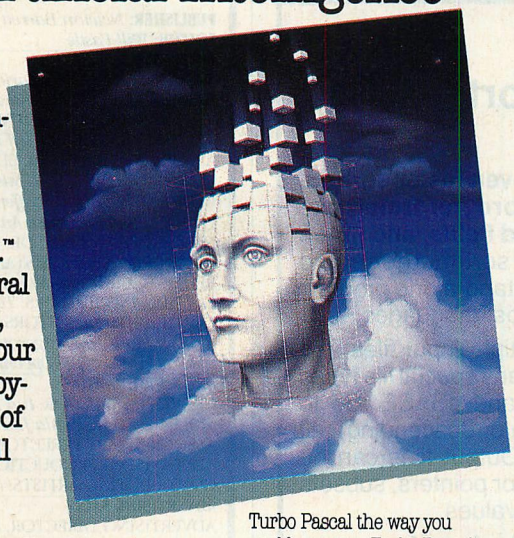


"The computer is no better than its program."
Elting Morison, author of "Men, Machines and Modern Times"



Step-by-step tutorial, demo programs with source code included!

Borland's new Turbo Prolog is the powerful, completely natural introduction to Artificial Intelligence

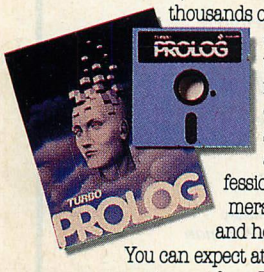


Prolog is probably one of the most powerful computer programming languages ever conceived, which is why we've made it our *second* language—and "turbo-charged" it to create Turbo Prolog.™

Our new Turbo Prolog, the natural language of **A**rtificial **I**ntelligence, brings supercomputer power to your IBM® PC and introduces you step-by-step to the fascinating new world of **A**rtificial **I**ntelligence. And does all this for an astounding $99.95.

Turbo Prolog is to Prolog what Turbo Pascal® is to Pascal!

Our Turbo Pascal astonished everyone who thought of Pascal as "just another language." We changed all that—and now Turbo Pascal is the de facto worldwide standard, with hundreds of thousands of enthusiasts and users in universities, research centers, schools, and with professional programmers, students, and hobbyists.



You can expect at least the same impact from Turbo Prolog, because while Turbo Prolog is the most revolutionary and natural programming language, it is also a complete development environment—just like Turbo Pascal.

Minimum memory: 384K

> "Turbo Prolog offers generally the fastest and most approachable implementation of Prolog."
>
> *Darryl Rubin, AI Expert*

Even if you've never programmed before, our free tutorial will get you started right away

You'll get started right away because we have included a complete step-by-step tutorial as part of the 200-page Turbo Prolog Reference Manual. Our tutorial will take you by the hand and teach you everything you're likely to need to know about Turbo Prolog and artificial intelligence.

For example: once you've completed the tutorial, you'll be able to design your own expert systems utilizing Turbo Prolog's powerful problem-solving capabilities.

Think of Turbo Prolog as a high-speed electronic detective. First you feed it information and teach it rules. Then Turbo Prolog "thinks" the problem through and comes up with all the reasonable answers—almost instantly.

If you think that this is amazing, you just need to remember that Turbo Prolog is a 5th-generation language—and the kind of language that 21st century computers will use routinely. In fact, you can compare Turbo Prolog to Turbo Pascal the way you could compare Turbo Pascal to machine language.

You get the complete Turbo Prolog programming system for only $99.95

You get a complete Turbo Prolog development system including:

- The lightning-fast Turbo Prolog incremental compiler and the interactive Turbo Prolog editor.
- The 200-page reference manual which includes the step-by-step Turbo Prolog tutorial.
- The *free* GeoBase™ natural query language database including commented source code on disk—ready to compile. GeoBase is a complete database designed and developed around U.S. geography. It includes cities, mountains, rivers, and highways, and comes complete with natural query language. Use GeoBase immediately "as is," or modify it to fit your own interests.

So don't delay—don't waste a second—get Turbo Prolog now. $99.95 is an amazingly small price to pay to become an immediate authority—an instant expert on artificial intelligence! The 21st century is only one phone call away.

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___	Turbo Prolog	$99.95	$ ____
___	Reflex: The Analyst	149.95*	$ ____
___	Reflex Workshop	69.95*	$ ____
___	Reflex, Reflex Workshop	199.95*	$ ____
___	Turbo Pascal 3.0 w/8087 & BCD	99 .95	$ ____
___	Turbo Pascal for CP/M-80	69.95	$ ____
___	Turbo Database Toolbox	69.95	$ ____
___	Turbo Graphix Toolbox	69.95	$ ____
___	Turbo Tutor 2.0	39.95	$ ____
___	Turbo Editor Toolbox	69.95	$ ____
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___	Lightning Word Wizard	69.95	$ ____
___	Turbo Lightning, Lightning Word Wizard	149.95	$ ____
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***YES, if within 60 days of purchase you find that this product does not perform in accordance with our claims, call our customer service department and we will gladly arrange a refund.*

Prices subject to change without notice.

Turbo Prolog 1.0 Technical Specifications

Compiler: *Incremental compiler generating native in-line code and linkable object modules. The linking format includes a linker and is compatible with the PC-DOS linker. Large memory model support. Compiles over 2500 lines per minute on a standard IBM PC.*

Interactive Editor: *The system includes a powerful interactive text editor. If the compiler detects an error, the editor automatically positions the cursor appropriately in the source code. At run-time, Turbo Prolog programs can call the editor, and view the running program's source code.*

Type System: *A flexible object-oriented type system is supported.*

Windowing Support: *The system supports both graphic and text windows.*

Input/Output: *Full I/O facilities, including formatted I/O, streams, and random access files.*

Numeric Ranges: *Integers: −32767 to 32767; Reals: 1E−307 to 1E+308.*

Debugging: *Complete built-in trace debugging capabilities allowing single stepping of programs.*

GF6

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Allows you to easily recall and edit your previously entered DOS commands and data lines without re-typing.

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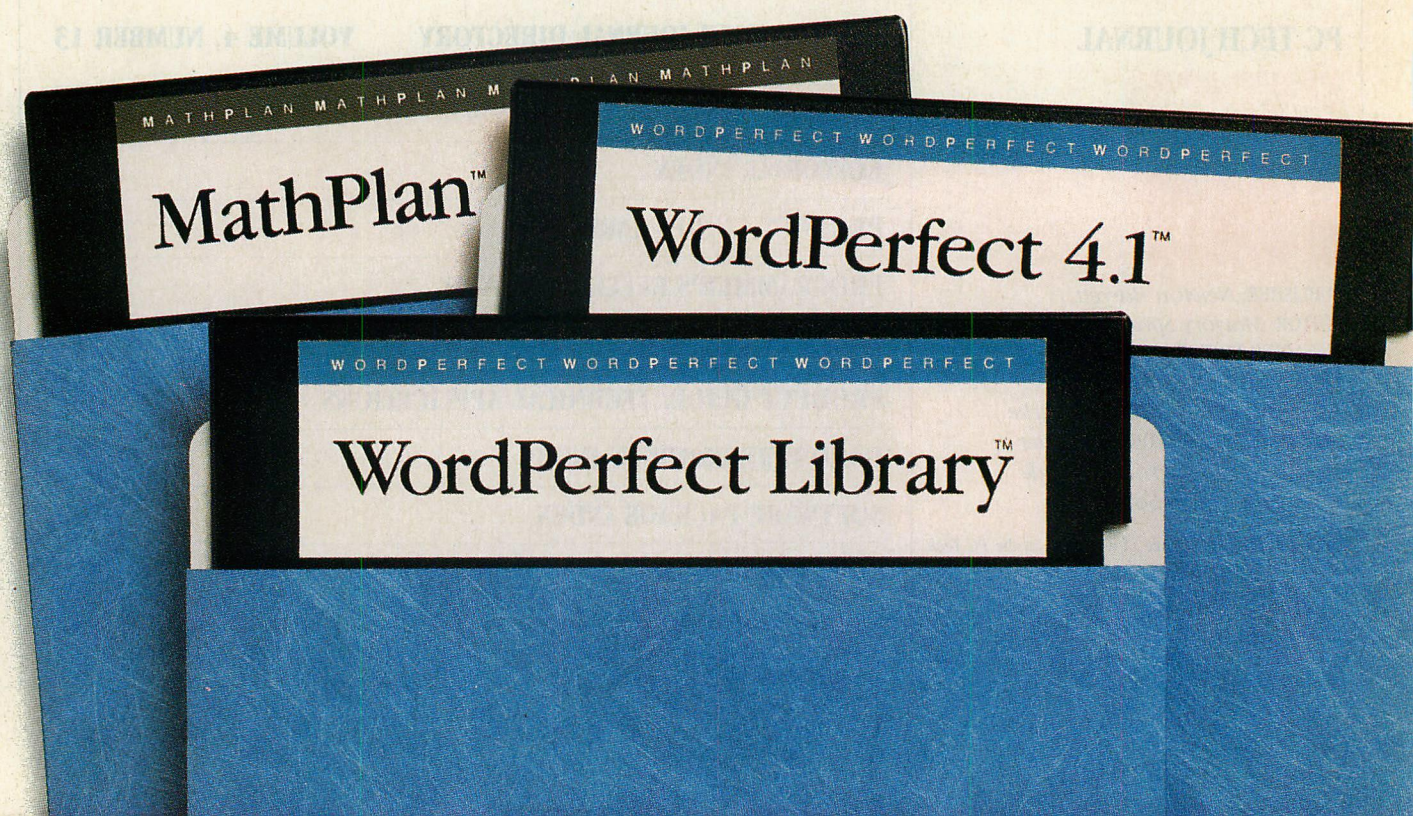
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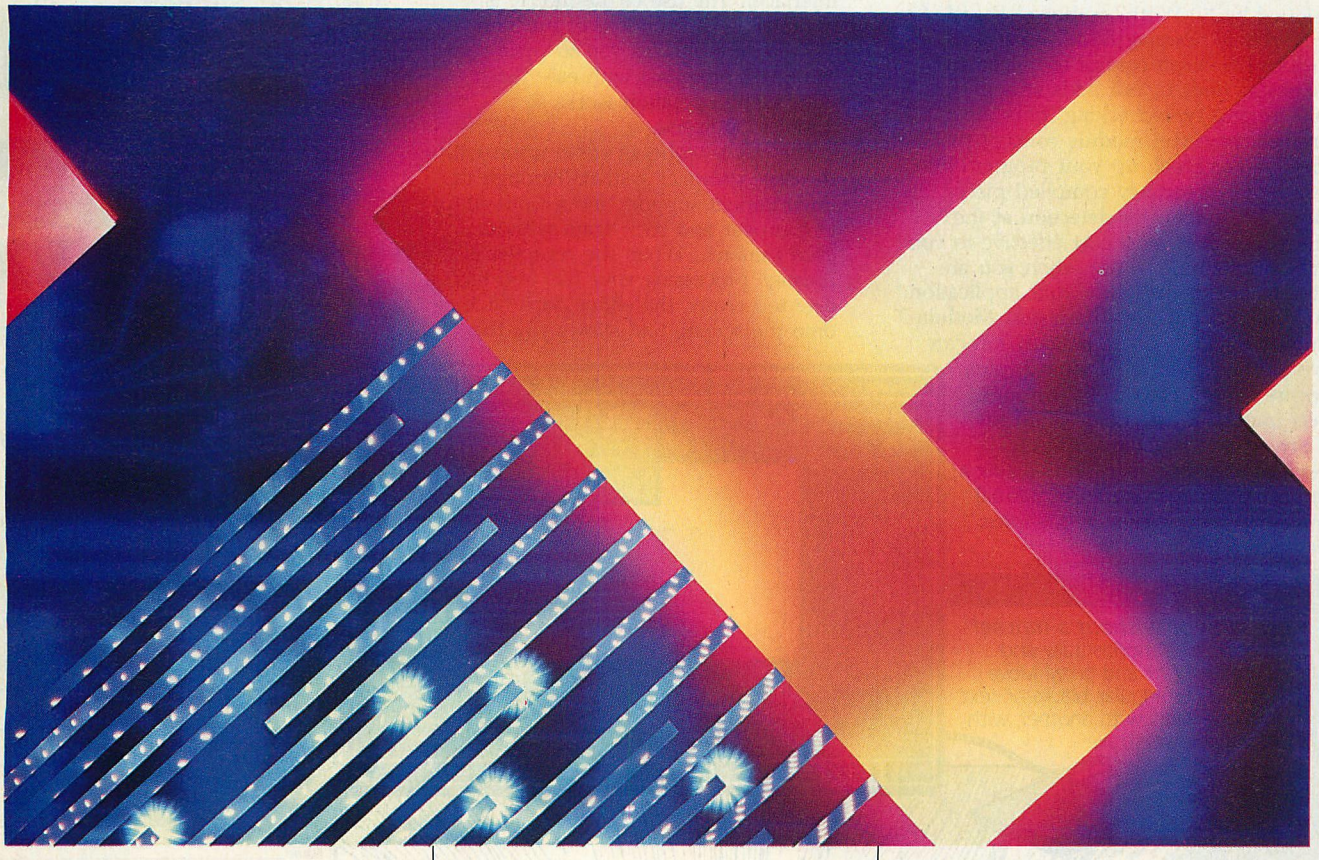
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A USER'S GUIDE



Stop here for a moment before you try to figure out what's in this tome and how to go about using it. In your hands is the *PC Tech Journal Directory*, a combination editorial index, guide to products for technical users, and assembly language reference card for 80286 machines—all important and useful tools for *PC Tech Journal* readers.

Think of it as a companion to our regular issues: the Editorial Index is a guide through the back issues that we know so many readers are keeping. The Product Guide, the major part of the issue, lists products likely to be of interest to advanced technical users. The reference card is printed on heavier paper so it can be removed, folded into a convenient size, and kept near your computer. We expect to update and publish the *Directory* on an annual basis.

We prepared the Editorial Index in the mold of the *Reader's Guide to Periodical Literature*. Starting from volume 1, number 1, we indexed each article four ways: article title (with abstract), author, subject, and product reviewed, if any. Knowing any one piece of information about an article or subject will lead to the important information: when it was published in *PC Tech Journal*. Our editorial staff wrote the abstracts to articles. It was an extremely time-consuming task but we consider the information held in our back issues too important to stand without the benefit of a first-class index.

Now the format of the mammoth Product Guide. There are three main product sections: Hardware (p. 63), Systems Software (p. 529), and Technical Applications (p. 403). Entries in each of these sections are grouped by type of product. Individual entries include a product description, vendor name, and—of great interest to readers—the date the product was reviewed in *PC Tech Journal*, if in fact it was.

Following the three main sections are three indexes: Hardware (p. 499), Software (p. 529), and Company (p. 565). Hardware and software indexes list the products and the page numbers where they appear in the three main sections. The third index, the Company Index, includes the name, address, and telephone number of any company whose product is listed in the *Directory*. Following all this is the Product Guide Addendum, which includes products added to the *Directory* after the main sections were completed.

Bound in between pages 64 and 65 is the Assembly Language Reference Card, which we expect the programmers among our readers to remove immediately and place near a computer. As for the *Directory* itself, we are confident it will be given a place on a bookshelf next to an ever-expanding set of *PC Tech Journals*.

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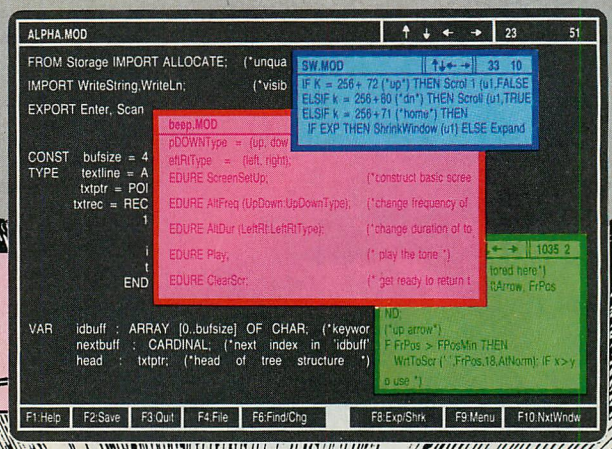
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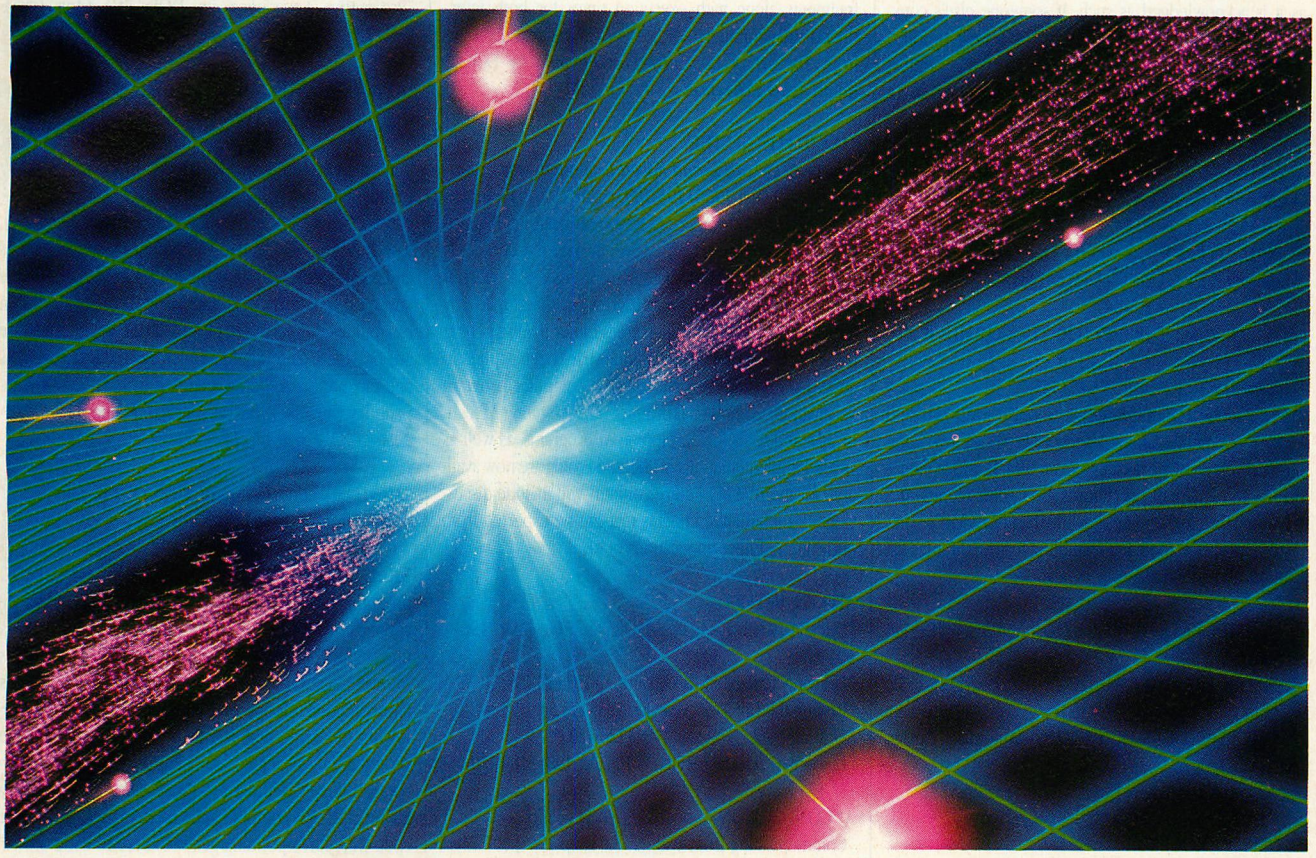
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EDITORIAL INDEX



A

AARONS, RICHARD N.
"Flexible Designs, A Data Manager for." 4:6 (Jun 1986):156-182.

ABOVE BOARD PC—Intel Corp.
"Expandable Memory." 4:2 (Feb 1986):66-83.

ABRASH, MICHAEL
"Bit Rotation Speeds." Tech Notebook. 4:5 (May 1986):47.
"Flicker-free Scrolling." Tech Notebook. 4:9 (Sep 1986):43.

ABRASH, MICHAEL and DAN ILLOWSKY
"Animation Techniques." 4:7 (Jul 1986):46-71.
"Customized Boots." 3:2 (Feb 1985):150-159.
"Software Sprites." 4:8 (Aug 1986):125-157.
"Up, Down, Right, Left, and Check, Part 1." 1:4 (Jan 1984):46-52.
"Up, Down, Right, Left, and Check, Part 2." 1:5 (Feb 1984):93-116.

ABSTAT—Anderson-Bell
"Seven Utilities for dBASE II." 1:9 (Jun 1984):111.

"ACCELERATED KEYSTROKES"
Rollins, Dan. Programming Practices. 4:9 (Sep 1986):179-185.
A program called KWIKKEY.ASM is presented that can be installed to help the PC repeat keystrokes three times faster than normal. One routine monitors the keystroke buffer to sense the auto-repeat condition, then triggers a second routine, which adds a key code to the buffer at every timer tick. A figure shows the structure of the keystroke buffer. Repeat-key acceleration can be accomplished more simply on the PC/AT because the keyboard cable is bidirectional, making the AT's 8048 keyboard controller programmable. A second listing provides a BASIC program to accelerate repeat-key action on the AT.

"ACCELERATING 2.1"
Rodabaugh, Robin. Tech Notebook. 4:3 (Mar 1986):43.
Diskette head settle time was increased to 15 milliseconds in DOS 2.1. Reducing this to 0 (which is the time in DOS 1.1 and 2.0) significantly speeds up certain DOS utilities, such as FORMAT. DOS Patches are presented that reduce the head settle time to 0. A listing gives the DEBUG session used to accomplish the patch.

"ACCESSING DOS FROM PASCAL"
Levaro, Richard A. Tech Notebook. 1:2 (Sep/Oct 1983):83.
IBM Pascal provides an external function, DOSXQQ that allows the user to call DOS functions from Pascal programs. This Tech Notebook elaborates on the description of DOSXXQ in the IBM Pascal manual.

"ACCESSING THE PRINT QUEUE"
Finan, Patrick. Programming Practices. 4:6 (Jun 1986):187-193.
DOS 3.0's improved PRINT.COM utility lets a program invoke background printing. A listing is provided for an IBM Pascal library that can: check that the correct version of PRINT.COM is resident; add a file to the print queue; delete a file from the print queue; display or clear the print queue. A second listing calls the library.

"ACCESSING THE SERIAL PORT FROM COBOL"
Carter, Tom. 1:2 (Sep/Oct 1983):90-103.
COBOL can be used to send and receive ASCII files through a serial port, with the aid of the COBOL and assembly language routines listed here. Three tables show the submit/recieve data structures used, error messages, and asynchronous protocol.

ACKERMAN, MARK S.
"Good Find, A." 3:10 (Oct 1985):85-91.

"ACKNOWLEDGING OWNERSHIP"
Oppenheimer, Max Stul. Legal Brief. 3:10 (Oct 1985): 185-186.
When someone else's work is used, attention must be paid to protecting the owner's *intellectual property* interests. Another company's trademark may be used as long as it is acknowledged as such. If someone else's copyrighted work is used as the basis for a new product, appropriate credit needs to be given to the original author. When a trade secret of another company is used, its confidentiality must be maintained.

ACPC-14-16-T12-A-C—Strawberry Tree Computers
"Digitizing Analog Data." 4:5 (May 1986):52-71.

ACPC-16-16-T12-A—Strawberry Tree Computers
"Digitizing Analog Data." 4:5 (May 1986):52-71.

"ACS OR PCM: THE BETTER TO COMMUNICATE WITH"
Hansen, Augie. 2:2 (Aug 1984):155-177.
Asynchronous Communications Support (ACS)2.0 and Personal Communications Manager (PCM) are two communications software packages from IBM. Both are menu-driven, and screen display figures show some menus. ACS is a dumb terminal emulator, while the PCM adds "smart" features and electronic mail handling features. Tables list features and commands.

ADA EDUCATIONAL PROLOG—Automata Design Associates
"Programming in Logic, Part 2." 4:1 (Jan 1986):145-155.

ADA PUBLIC DOMAIN PROLOG—Automata Design Associates
"Programming In Logic, Part 1." 3:12 (Dec 1985):82-95.

ADDELSON, ROGER
"BLUELYNX Advanced COAX." Product Watch. 4:4 (Apr 1986):189.
"Emulating the 3278." 4:2 (Feb 1986):48-63.
"Nine-track Tape Systems." 4:8 (Aug 1986):94-108.

ADDRAM ELITE—Profit Systems, Inc.
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

ADVANCED NETWARE—Novell, Inc.
"NetWare in Control." 3:11 (Nov 1985):102-119.

ADVANTAGE!—AST Research, Inc.
"And the Winners Are." Product of the Month. 3:6 (Jun 1985):23.

"ADVENTURES IN COMDEXLAND"
Fastie, Will. Directions. 3:1 (Jan 1985):5-6.
The expected industry shakeout was not in evidence at the COMDEX '84 trade show. The industry has not reconciled human interface with data management software. Local area networks have not become as popular as expected because of a dearth of applications suited for LAN use. 2400-baud modems have arrived. COMDEX showed very few developments in graphics. COMDEX and other trade shows will grow as their focus changes from technology to marketing. A new department for *PC Tech Journal*, Product of the Month, is announced.

AFSE—Nota Bene Software
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

"AFTER BUBBLESORT"
Naddor, Eliezer. 1:7 (Apr 1984):40-59.
An analysis of eight sorting algorithms determines that shell, quick, singleton, and tree sort are all uniformly fast; selection, bubble, and insertion sort are all uniformly slow. Twenty-four figures show the algorithms as BASIC fragments along with execution times for both interpreted and compiled BASIC. Most of the algorithms come from *The Art of Computer Programming* by Donald Knuth. *Letter References—2:4 (Oct 1984):14-15.*

"AI CHALLENGE, THE"
Schwartz, Richard L. and Robert E. Shostak. Expert Consultant. 4:9 (Sep 1986):195-197.
Perhaps the most important lesson artificial intelligence (AI) researchers have learned over the past few decades is how difficult it is to emulate or reproduce the effect of human thinking. However, progress has been made by focusing on specific problem areas rather than searching for general solutions. AI techniques have been applied in areas from vision understanding to computer program verification. Commercial products incorporating AI techniques and tools for developing AI programs, as well as several implementations of LISP and Prolog are now available for the IBM PC. Future columns will include discussions of the tangible benefits that can be expected from current and future applications of AI.

AITKEN, PETER G.
"Digital-to-Analog, Analog-to-Digital." 1:6 (Mar 1984): 104-116.
"Drawing Toward Monochrome." 4:1 (Jan 1986):70-77.
"Passing the Lab Test." 1:4 (Jan 1984):75-84.
"Plotting Data." 3:3 (Mar 1985):123-129.
"Powerstat." Product Watch. 4:10 (Oct 1986):189-190.

AJ CONNECTION—Anderson Jacobson, Inc.
"Communicating from Within." 3:9 (Sep 1985):60-77.

"ALARM FOR THE AT, AN"
Scanlon, Leo J. Programming Practices 4:4 (Apr 1986):179-182.
An assembly language program is presented that accesses the PC/AT's CMOS alarm clock function to beep the speaker at a time specified by the user. Simple modifications allow the system to execute a particular program when the alarm time is reached. A listing provides the SETALARM.ASM program.

ALPHA 10 CARTRIDGE DRIVE SUBSYSTEM—IOMEGA
"Bernoulli Box, The." 3:6 (Jun 1985):144-156.

"ALTERNATIVE LICENSES"
Oppenheimer, Max Stul. Legal Brief. 3:7 (Jul 1985): 165-166.
Alternatives to shrink-wrapped licenses are offered by Borland International Inc. and the fictional Mother Jones' Son's Software Corp. Borland's license states that its software must be treated like a book; it can be used on any computer, but by only one person at a time. Mother Jones' Son's Software license also states that it be treated like a book and grants the right to use the software on multiple machines by multiple users, but still only one user at a time. Mother Jones invokes a new standard in copy protection techniques, stating that 30 days after violating the agreement, ownership of the user's soul automatically passes to Mother Jones. Neither company offers a satisfactory agreement for expensive software.

AMDEK MULTIPLE ADAPTER INTERFACE—Amdek
"Four Multifunction Display Adapters." 1:4 (Jan 1984): 32-43.

AMX86 MULTITASKING EXECUTIVE—Kadak Products
"Preemptive Scheduling on DOS." 4:4 (Apr 1986): 98-122.

"ANALYZING THE ADVANCED TECHNOLOGY"
Hoffmann, Thomas V. 2:6 (Dec 1984):40-56.
The IBM PC/AT is the fastest, most powerful microcomputer manufactured by IBM. The AT will bring multiuser, multitasking capabilities to the IBM PC world, and is compatible with the rest of the IBM personal computer family. A technical review of the AT examines systems features and components, including the Intel 80286 processor, the keyboard, memory organization, and system expansion capabilities. Numerous photos of the AT system hardware are provided, as well as 11 tables detailing AT functions and capabilities. A special section is included on AT compatibility with other IBM personal computers. *Letter References—3:2 (Feb 1985):14.*

"ANATOMY and CONSTRUCTION OF XB, THE"
Foard, Richard M. 1:1 (Jul/Aug 1983):61-69, 159-161, 184-191.
Experimental BASIC (XB) was developed to help BASIC programmers handle complex programming tasks by adding structured features to the language. XB eliminates line numbers and uses label and procedure names instead. XB also provides enhancements to IF statements and conditional loops. Its disadvantages include the following: the BASIC output code is difficult to read; on-line programming changes cannot be made; processing errors is difficult; and the product is slow. Included are a listing of the XB compiler and one example of XB source code with corresponding generated BASIC code.

"AND THE WINNERS ARE"
Duntemann, Jeff. Product of the Month. 3:6 (Jun 1985):23.
Five multifunction boards for the IBM PC/AT are highlighted: Advantage! (AST), AT Combo Card (Apparat), Challenger (ALR), Maestro AT (Tecmar), and Rio Grande (STB). The Challenger can carry as much as 4MB on a piggyback board. The Rio Grande is limited to 1.5MB, but appears to be more reliable. Each of the boards has at least one parallel and one serial port. The Challenger board comes with a print spooler program. The Advantage! includes a sophisticated diagnostic program. The Maestro AT includes Tecmar's popular Treasure Chest program anthology, including a checkbook manager, calculator, RAM disk, and print spooler.

ANDERSON, JULIE A.
"Evaluating Data Managers as Development Tools." 3:8 (Aug 1985):46-51.
"Irresistible DOS 3.0." 2:6 (Dec 1984):74-87.
"Maverick Controller, The." 3:1 (Jan 1985):58-63.
"Pop (up) Goes the Mouse Menu." 2:2 (Aug 1984): 74-84.

ANDERSON, JULIE A. and SUSAN GLINERT-COLE
"Omnium-Gatherum." 2:3 (Sep 1984):56-62.

ANGELL, RICHARD
"ProDesign II." Product Watch. 4:4 (Apr 1986):194-197.

"ANIMATION TECHNIQUES"
Abrash, Michael and Dan Illowsky. 4:7 (Jul 1986): 46-71.
Possible methods for producing graphics animation on the IBM PC are covered from brute-force methods in C to more refined techniques in assembly language using novel algorithms. The final animation system, using a byte-move graphics driver with self-erasure, is nearly 20 times faster than the original system, an XOR driver written in C. The IBM Color Graphics Adapter (CGA) running in 320-by-200, four-color mode is used throughout. Listings provide code for all drivers and sample screen photos are included in the article. Figures show byte/pixel mapping for the CGA, CGA buffer structure, form data structure, XOR driver logic, and shift/add multiplication by 80. A table lists benchmark timings.

APL—IBM
"Two APL Systems: A Comprehensive Review." 1:3 (Nov/Dec 1983):135-167.

APL*PLUS/PC—STSC
"Two APL Systems: A Comprehensive Review." 1:3 (Nov/Dec 1983):135-167.

APPARAT FIXED DISK—Apparat, Inc.
"Upgrading a PC to an XTRA T." 1:5 (Feb 1984):75-82.

APPLICATIONS DISPLAY MANAGEMENT SYSTEM —IBM
"Screen Composure." 3:4 (Apr 1985):149-159.

"APPROACHING THE OPTIMUM PASCAL"
Duntemann, Jeff. 4:7 (Jul 1986):94-133.
Seven Pascal compilers for the PC are reviewed: IBM Pascal (IBM); Microsoft Pascal (Microsoft Corp.); Mystic Pascal (Mystic Canyon Software); Professional Pascal (Microtec Research); Turbo Pascal (Borland International Inc.); UCSD Pascal (Pecan Software Systems); and Utah Pascal (Ellis Computing, Inc.). Tables compare features and list benchmark test results. Listings provide source code for all benchmark tests. A sidebar reviews three educational Pascal products: Alice Pascal (Software Channels, Inc.); Exploring Pascal (Ashton-Tate Publishing Group); and WATCOM Pascal (WATCOM Products).

APS/SPF—Arrix Logic Systems, Inc.
"In the ISPF Tradition." 4:3 (Mar 1986):113-138.

APX CORE EXECUTIVE—Application Executive
"Concurrent Environments." 3:12 (Dec 1985):52-65.

"ARE YOU SURE (Y/N)?"
Garbers, Jeff. 1:5 (Feb 1984):44-54.
An assembly language DOS utility performs safe wild-card deletes, prompting for confirmation before deleting each specified file. A program listing and an example session are included.

ARITY/PROLOG—Arity Corp.
"Programming in Logic, Part 2." 4:1 (Jan 1986):145-155.

ARMBRUST, STEVEN and TED FORGERON
"Backup Utility Performance." 4:3 (Mar 1986):78-83.
"Compaq Deskpro 286." 4:8 (Aug 1986):80-91.
"Entomological Explorations." 3:1 (Jan 1985):88-105.
"Forward-looking VDI." 3:9 (Sep 1985):42-55.
"HP Vectra." 4:10 (Oct 1986):110-130.
"Kernel Code Generation, A Data Manager with." 3:9 (Sep 1985):82-101.
"Moving up to Tape." 3:11 (Nov 1985):62-83.
".OBJ Lessons." 3:10 (Oct 1985):61-81.
"Program Orchestration." 2:5 (Nov 1984):28-44.
"Slimmer Pascal, A." Programming Practices. 3:10 (Oct 1985):173-183.
"Untangling Programs." 3:4 (Apr 1985):81-93.
"Well-formatted Pascal, The." 2:4 (Oct 1984):22-33.

ARMBRUST, STEVEN, TED FORGERON, and PAUL PIERCE
"Out from the Shadow of IBM." 4:8 (Aug 1986):52-75.

"ARRGH! I DIDN'T SAVE MY PROGRAM!"
Rollins, Dan. 2:5 (Nov 1984):134-148.
A utility for recovering unsaved BASIC programs is explained. DEBUG is used to locate the tokenized program, which is still in memory. A header is improvised and the program is written to disk. BASIC's optimization of GOTO addresses complicates recovery. A figure shows how to reconstruct GOTOs. Another figure shows a DEBUG session to rescue a program. This process is automated in a listing, SAVEBAS.BAS.

ARTIFICIAL INTELLIGENCE
"AI Challenge, The." Expert Consultant. 4:9 (Sep 1986):195-197.

"ASCENT OF DOS, THE"
Mirecki, Ted. 4:10 (Oct 1986):92-104.
Since the introduction of DOS in 1981, IBM has released a new version of the operating system about every nine months. The new release 3.2 supports the PC Convertible's 3½-inch, 720KB diskette format. The article provides a brief history of the evolution of DOS, as well as a summary of DOS 3.2's new features. Further analysis explores the upward and downward compatibility issues arising out of IBM's simultaneous support of both DOS 2.1 and DOS 3.2.

"ASSEMBLERS WITHOUT ULCERS"
Raymond, Eric S. 2:3 (Sep 1984):173-186.
A brief tutorial is provided for BASIC and Pascal programmers who need to use ASM-86 for short assembly language subroutines. A program listing provides interfacing ASM-86 macros powerful enough to handle CONST and VAR declarations in calls from Pascal. Tables show simple ASM-86 commands and macros.

"ASSEMBLY LANGUAGE ROUTINES TO CONTROL SOUNDS ON THE IBM PC"
Morgan, Christopher L. 1:7 (Apr 1984):95-102.
Subroutines are described that program the 8253 timer chip to turn the speaker of an IBM PC on and off, to control its frequency, and to produce various sounds and musical tones. Listings of the four assembly language subroutines are included. This is an excerpt from Morgan's *Bluebook of Assembly Routines for the IBM PC.*

AST-5251/11—AST Research, Inc.
"5251 Connection, The." 4:7 (Jul 1986):76-89.

ASYNC MANAGER—Blaise Computing, Inc.
"Drop-in Modules for C, Part 3." 3:8 (Aug 1985): 141-159.

ASYNCHRONOUS COMMUNICATIONS SUPPORT —IBM
"ACS or PCM: The Better to Communicate With." 2:2 (Aug 1984):155-177.

"ASYNCHRONOUS X.25"
Duntemann, Jeff. Product of the Month. 3:11 (Nov 1985):39.
The Tymnet division of McDonnell Douglas has created an asynchronous emulation of the International Consultative Committee for Telephone and Telegraph (CCITT) X.25 specification called X.PC. The X.PC protocol established error-protected data transmission for asynchronous communications. X.PC is not a product but a standard for the development of future products. The X.PC protocol specification document is available from PCTECHline and is in the public domain.

AT COMBO CARD—Apparat, Inc.
"And the Winners Are." Product of the Month. 3:6 (Jun 1985):23.

"AT vs RT"
Fastie, Will. Directions. 4:4 (Apr 1986):7-8.
IBM has been demonstrating its seriousness about the technical market. It appeared that the AT was IBM's weak entry into the technical workstation market, until the recent announcement of the RT/PC. The intimidating price of the RT/PC may be overcome by bundling it into a mainframe purchase.

AT/RTX—Real-Time Computer Science Corp.
"PC Versions of iRMX." 4:6 (Jun 1986):126-150.

ATPLUS 20MB DISK—Core International, Inc.
"Replacement Disks for the AT." 3:8 (Aug 1985):74-79.

ATPLUS MEMORY (256KB)—Core International, Inc.
"Replacement Disks for the AT." 3:8 (Aug 1985):74-79.

ATTACHMATE 3-N-1—Attachmate Corp.
"Emulating the 3278." 4:2 (Feb 1986):48-63.

ATTACHMATE-3270—Attachmate Corp.
"Emulating the 3278." 4:2 (Feb 1986):48-63.

"ATTENTION TO DETAIL"
Fastie, Will. Directions. 2:6 (Dec 1984):5-6.
IBM has shown an impressive attention to detail in the PC/AT except for two shortcomings: lack of good backup capability and several flaws in the keyboard layout. The announcements of the Enhanced Graphics Adapter and Professional Graphics subsystems make it possible to turn the AT into a graphics workstation. The AT uses a dual bus to take advantage of the expanded bus of the 80286 microprocessor, without sacrificing compatibility with most existing hardware for the 8088-based PC. The BIOS has been designed to preserve maximum compatibility with the PC. The AT has an impressive performance lead over the PC and XT. DOS 3.0 fixes an irritating problem and smooths the way toward use with the newly announced PC Network, IBM's endorsement of LAN. *Letter References—3:3 (Mar 1985):14-17.*

"AUDIO DEBUGGING"
Duntemann, Jeff. Tech Notebook. 3:1 (Jan 1985):177.
An FM radio can be used to listen for malfunctions in a program. Disk access, polling loops, and timer interrupts all have distinctive, audible frequency signatures.

AUTOCAD—AutoDesk, Inc.
"Drafting by Design." 4:1 (Jan 1986):50-65.

AUTOCODE—Axel Johnson Corp.
"Head Start on Program Generation, A." 1:9 (Jun 1984):146-177.

AUTODEX—Autodex
"Shell Game, The." 1:3 (Nov/Dec 1983):30-41.

"AUTOMATIC PCs"
Fastie, Will. Directions. 4:3 (Mar 1986):11-12.
A visit to IBM's manufacturing plant in Boca Raton, Florida is described, including a detailed description of a computer's journey down the assembly line. A sidebar follows that includes readers' reactions to the way in which *PC Tech Journal* covers programming languages.

"AUTOMATIC SCREEN DUMPS FROM BASIC"
Fastie, Will. Tech Notebook. 1:1 (Jul/Aug 1983):147.
A BASIC subroutine is presented that allows the DOS PrtSc key sequence to work when BASIC is running. The subroutine pokes a machine language into a safe spot in memory. A call to the assembly language routine created actually prints the screen. The BASIC subroutine and the assembly language routine it produces are listed.

"AVOIDING 'REDO FROM START' PROBLEMS"
Duntemann, Jeff. Tech Notebook. 1:9 (Jun 1984):178.
GETSTRNG.BAS, a bulletproof input subroutine for BASICA to handle string input, is listed. GETSTRNG interprets all characters as strings—an improvement over INPUT, which disrupts screen forms when even it encounters invalid numeric input.

AWALT, DON
"Bubble Boards." 3:5 (May 1985):123-136.
"CCP/M-86." 1:6 (Mar 1984):64-76.
"Concurrent Environments." 3:12 (Dec 1985):52-65.
"Concurrent PC-DOS." 3:3 (Mar 1985):45-54.
"Enhancement by JRAM-2." 3:3 (Mar 1985):92-99.
"IBM's BASIC Programming Development System." 1:1 (Jul/Aug 1983):107-114.
"Patching a Bug in DOS 2.1." 2:5 (Nov 1984):71.
"Screen Of Many Colors, A." 2:4 (Oct 1984):145-146.

AZTEC C86—Manx Software Systems
"C and the PC, Part 1." 1:3 (Nov/Dec 1983):110-130.
"State of C, The." 4:1 (Jan 1986):82-108.

B

B86 INTERNAL HARD DISK—Bell Technologies
"Breaking the 32MB Barrier." 4:5 (May 1986):94-108.

BABY/34—California Software Products, Inc.
"System/34 for the Microcomputer." 3:5 (May 1985):193-197.

"BACKING UP THE AT WITH FILESAFE"
Sandler, Corey. 2:6 (Dec 1984):150-153.
Mountain Computer's AT-FileSafe Tape is a streaming tape backup system for the PC/AT. Tape storage is not accessible directly from DOS. The internally mounted subsystem has a capacity of 27MB per tape cartridge. Under test, it backed up 20MB of data from the AT to a backup tape in six minutes, and then restored the same data to the original disk in six minutes. A similar backup test using IBM's BACKUP utility took 31 minutes.

BACKTRACK—Tallgrass Software Technologies
"Backup Utility Performance." 4:3 (Mar 1986):78-83.

BACKUP—Software Integration, Inc.
"Backup Utility Performance." 4:3 (Mar 1986):78-83.

"BACKUP UTILITY PERFORMANCE"
Armbrust, Steven and Ted Forgeron. 4:3 (Mar 1986):78-83.
This review of software-only, hard-disk backup utilities considers five packages: BACKUP (Software Integration, Inc.); DSBackup (Design Software, Inc.); Dump/Restore (Cogitate, Inc.); Fastback (Fifth Generation Systems); and BackTrack (Tallgrass Software Technologies). All are copy protected. Tables compare features and performance benchmarks of the products.

BARNES, ROBERT
"Considering PL/1." 3:8 (Aug 1985):82-102.

BASIC_C—C Source Inc.
"BASIC To C." 2:4 (Oct 1984):117-140.

"BASIC DEVELOPMENT SYSTEM"
Hultquist, Paul. Product Watch. 4:6 (Jun 1986):196-198.
BetaTool System's BASIC Development System (BDS) is a debugging package recommended to programmers working with large BASIC programs. BDS functions include trace, dump, compress, undo, and many kinds of cross-referencing. A figure shows file compression. Other BDS implementations are available for IBM BASIC and versions of Microsoft BASIC bundled with compatibles.

"BASIC ELEGANCE"
Bauman, Ron. 2:4 (Oct 1984):181-189.
A BASIC program called BASLDR allocates memory for assembly language subroutines, loads them, and then loads the BASIC interpreter. Any BASIC programs loaded thereafter can call the subroutines without the bother of BLOADing or POKEing. When the user leaves BASIC, BASLDR returns all memory to DOS. A figure shows the memory allocation process. Listings include BASLDR, a sample assembly language subroutine, and a sample BASIC program that calls the subroutine. *Letter References—3:1 (Jan 1985):14.*

BASIC PROGRAMMING DEVELOPMENT SYSTEM—IBM
"IBM's BASIC Programming Development System." 1:1 (Jul/Aug 1983):107-114.

"BASIC STRING MANIPULATION"
Rollins, Dan. Tech Notebook. 2:4 (Oct 1984):193.
Several BASIC fragments for standard string manipulations are featured. The techniques include the padding and truncating of strings, and upshifting. A trick is given to minimize the time that BASIC needs in order to reorganize its limited string space.

"BASIC TABLE LOOKUPS"
Volkstorf, J. Edward Jr. Tech Notebook. 1:3 (Nov/Dec 1983):171.
BASIC's string handling capabilities provide rapid access to small tables. The simple strategy presented encodes tables as strings. The three programs listed implement a very simple invoicing system.

"BASIC TO C"
Tello, Ernest. 2:4 (Oct 1984):117-140.
Two new development tools designed to aid in BASIC to C translation are reviewed: BASIC_C from C Source, Inc. and BASTOC from JMI Software Consultants. BASIC_C is a library of C functions that correspond to common BASIC statements and functions. Translation is done manually using programmer-generated calls to the library. It is insufficiently documented and requires considerable prior knowledge of C. BASTOC is a translator that produces C source code from MS BASIC ASCII files. BASTOC does not recognize the PC-specific features of IBM BASIC, and its C output code requires editing before it will compile and run reliably. Both products are useful, but neither does the whole job for the programmer. *Letter References—3:2 (Feb 1985):17-22.*

"BASIC TOOLS OF U.S. INTELLECTUAL PROPERTY LAW, THE"
Oppenheimer, Max Stul. Legal Brief. 1:3 (Nov/Dec 1983):213-220.
The differences between methods used by manufacturers to protect their software—copyrights, patents, trademarks, and trade secrets—are presented. A table lists the legal protections afforded by each method. A listing provides a BASIC program that is intended as an all-purpose pseudo-legal emulator.

BASICA (bundled with DOS)—IBM
"Six New Shapes of BASIC." 4:6 (Jun 1986):52-75.

"BASICA SCREENS TO TURBO"
Duntemann, Jeff. Tech Notebook. 3:2 (Feb 1985):50.
A Turbo Pascal program converts a file saved with BASICA's BSAVE into Turbo Pascal format. The listed example program demonstrates conversion of a screen bit map, but an array or other structure that is saved with BSAVE also can be converted.

BASTOC—JMI Software Consultants, Inc.
"BASIC To C." 2:4 (Oct 1984):117-140.

BAUMAN, RON
"BASIC Elegance." 2:4 (Oct 1984):181-189.

BEALE, DAN
"PC Scheme." Product of the Month. 4:8 (Aug 1986):29.
"WindowDOS." Product Watch. 4:3 (Mar 1986):185-186.

"BEHIND BASIC'S BACK"
Rollins, Dan. Tech Notebook. 2:3 (Sep 1984):198.
The BASIC fragments listed here perform several useful functions with an IBM PC: change text and background colors, switch between two printers, and mimic a print screen keystroke in software.

BENSKY, SY
"Dynamic Memory Management." Programming Practices. 4:10 (Oct 1986):173-181.

BENTLEY, MICHAEL and JEFF DUNTEMANN
"Pascal Times Four." 2:1 (Jul 1984):58-72.

"BERNOULLI BOX"
Perrone, Giovanni. Product Watch. 4:4 (Apr 1986): 197-98.
The new Bernoulli Box models use IOMEGA's half-height, eight-inch cartridge drives in a cabinet half the size of and 20 pounds less than the original. The new models are available with one 10MB drive (A110H), two 10MB drives (A210H), one 20MB drive (A120H), or two 20MB (A220H) drives. A table shows benchmark timings (the average access time of the new system is 38 milliseconds). The new models can read data from cartridges written on older systems but cannot write data back.

BERNOULLI BOX—IOMEGA
"Bernoulli Box, The." 3:6 (Jun 1985):144-156.

"BERNOULLI BOX, THE"
Perrone, Giovanni. 3:6 (Jun 1985):144-156.
The Bernoulli Box is an external drive system that contains two eight-inch 10MB cartridge drives. It is complete with power supply and housed in an enclosure that matches the design of the PC. The Bernoulli Box provides higher performance and reliability than the PC/XT hard disk, allows virtually unlimited storage in 10MB segments, and includes the capability to archive or back up from one cartridge to another. Tables compare the Bernoulli Box to an XT diskette, RAM, and hard disk, as well as a PC/AT diskette, RAM, and hard disk.

"BEST OF BOTH WORLDS, THE"
Pettit, Gregg L. 2:3 (Sep 1984):151-166.
Macros for looping and branching add some high-level language readability to assembly language programs. Provided are IF...ELSE, bounded looping with DO and DO FROM, and conditional looping with DO WHILE and DO UNTIL. Tables and figures give a definition and example for each macro. *Letter References—3:1 (Jan 1985):13.*

BESTUL, THOR, TOM WOTEKI, ALAN FRIEDEN, DOV LEVY, and ROBERT STINE
"Modular Constructions." 2:5 (Nov 1984):72-94.
"Modular Implementations." 2:6 (Dec 1984):154-182.

"BETTER CGA, A"
Covington, Michael A. 4:7 (Jul 1986):137-140.
Two hardware modifications for the IBM Color Graphics Adapter (CGA) are described. One removes the striping effect that occurs on monochrome monitors running color programs. The addition of three resistors allows the CGA to render its 16 colors as distinct shades of gray. The second modification inserts a jumper wire in position P3. This allows users to access the alternative typeface for text mode on the CGA. Figures show the original CGA and the CGA after the circuit changes are made.

BETTERBASIC—Summit Software Technology
"Six New Shapes of BASIC." 4:6 (Jun 1986):52-75.

"BEYOND COM2"
Hansen, Augie. 4:9 (Sep 1986):68-79.
Nine add-in boards for the PC, PC/XT, and PC/AT are reviewed: LAMB (American Micronics, Inc.); FourPort/XN (AST Research, Inc.); HOSTESS 8 Multiport Network Adapter (Control Systems, Inc.); DigiCom/8 (Digiboard, Inc.); Quadport-AT (Quadram Corp.); Comm +4 (Sealevel Systems, Inc.); SMF/AT210 Multifunction Board (Sigma Information Systems); OC4000 and OC8000 (Star Gate Technologies, Inc.). Each provides multiple serial ports that can be assigned beyond the two ports supported by DOS and BIOS. Tables provide a multiport board summary and I/O addresses for AMI, AST FourPort/XN, Quadram Quadport-AT, Sigmation SMF/AT210, and Star Gate OC8000. Figures show serial adapter I/O addresses and communications interrupts.

BIG ED—Irohnic Systems
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

"BIGGER, SMALLER, FASTER, SLOWER"
Fastie, Will. Directions. 4:6 (Jun 1986):11-12.
After a period of relative silence, IBM announced a number of hardware and software products, including the PC Convertible—the first true portable from IBM. The Convertible features 3½-inch diskette drives, 512KB RAM, and a detachable LCD display. An 8-MHz PC/AT with a 30MB hard-disk drive and a PC/XT with a half-height 5¼-inch diskette drive, a 20MB hard-disk drive, a half-height 3½-inch diskette drive, and up to 640KB RAM on the system board also were announced. The new AT and XT models have enhanced keyboards. The new AT is seen as a catch-up machine, but the new XT is competitive.

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[1]Trademark of International Business Machines Corp.
[2]Trademark of Microsoft Corp.
*Turbo Pascal is a registered trademark of Borland International.
*dBASE is a registered trademark of Ashton-Tate.

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"BIT ROTATION SPEEDS"
Abrash, Michael. Tech Notebook. 4:5 (May 1986):47.
When programming for the PC, rotations of more than four bits can be accomplished faster by loading the count in the CX register and using the instruction ROL AX,CL rather than repetitively using the instruction ROL AX,1. A table lists rotation benchmarks. A figure shows part of an assembly language benchmark code.

"BLINKING CURSOR, THE"
Volkstorf, J. Edward Jr. Tech Notebook. 3:4 (Apr 1985):44.
In BASIC graphics modes, the cursor is a solid block character rather than a blinking line. A BASIC program is given that changes the cursor to a blinking cursor. The program is designed for individual character input in any graphics mode on a PC.

BLUELYNX 5251-11 I—Techland Systems, Inc.
"5251 Connection, The." 4:7 (Jul 1986):76-89.

"BLUELYNX ADVANCED COAX"
Addelson, Roger. Product Watch. 4:4 (Apr 1986):189.
Techland Systems, Inc.'s BLUELYNX Advanced COAX provides 3278 emulation on a PC. It can emulate models 2, 3, 4, and 5. Typical hot-key switches between DOS and 3270 sessions are provided. The capture of a screen image to printer and disk is offered as well as macro definition and user profiles. The HFT file-transfer package offers TSO, CMS, and CICS options. The HFT mainframe component is distributed on 1,600-bpi magnetic tape. A 3720-PC look-alike keyboard is optional. The BLUELYNX does not support 3279 color graphics.

"BOILERPLATE DEAL KILLERS"
Oppenheimer, Max Stul. Legal Brief. 3:8 (Aug 1985):175-176.
Standard contracts for sales and services of hardware and software often contain legal language, conditions, and disclaimers that can kill or cripple a purchase agreement between a vendor and a client. Example phrases, which disclaim warranties of merchantability and fitness for purpose of the product, or declare any prior written or oral agreements superceded, illustrate the destructive effect of legal stock phrases on an agreement that may have begun with mutual understanding.

"BOMB PROOFING"
Hansel, James C. 1:9 (Jun 1984):64-68.
Bomb proofing is built-in protection against incorrect inputs by the user. If a reply beyond the computer's limited set of expected answers is entered, input validation allows the software to respond positively and clearly, helping the user understand why a reply cannot be accepted. A figure shows a sample editing session. Listings provide programs that illustrate three examples of dBASE II validation code: a simple test for two possible legal values; verification that the input falls within an acceptable range of values; and a complex validation in which the value of one field depends upon the value input in another field.

"BONA FIDE BUG, A"
Mirecki, Ted. Tech Notebook. 3:5 (May 1985):41.
Two bugs in the DOS 2.x linker and one in MASM 1.0 are revealed. The linker bugs concern allocation of uninitialized structures (by MASM's STRUC pseudo-op). The MASM bug fails to flag invalid STRUC syntax. An assembly language listing reveals each bug.

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"BORLAND MAGIC"
Fastie, Will. Directions. 3:6 (Jun 1985):9-10.
The Borland International philosophy, as symbolized by the mythical programmer Frank Borland, has given us more than its fair share of innovation in the company's two-year life. Turbo Pascal is an example; Borland has sold more than 300,000 copies. With SideKick, Borland demonstrates success in a different software market area. The low prices of Borland's products caught the public's attention, but the quality of the goods held it. Borland has taken innovative steps to ward off illegal copying without inconveniencing its legitimate customers.

BOWMAN, JOSEPH V.
"Synthesizes Text and Data, A Data Manager that." 4:7 (Jul 1986):142-164.

BRACK, FREDERICK
"Linking Assembly Subroutines to BASIC Programs." 1:6 (Mar 1984):118-140.

BRADFORD, CHARLES
"TurboRef." Product Watch. 4:3 (Mar 1986):179.

BRADFORD, CHARLES and COLE BRECHEEN
"Modula-2 Software Development System." Product Watch. 4:9 (Sep 1986):187-188.
"XTREE." Product Watch. 4:7 (Jul 1986):167-168.

"BREAKING OUT WITH PERISCOPE"
Christensen, Ward. 4:3 (Mar 1986):65-73.
Periscope is a hardware-assisted debugger equipped with a breakout button the user can press to access Periscope from anywhere within an operating system or a specific application. Periscope also features an optional protected memory board that shields the debugger from applications that can wipe out memory. Periscope is available in two models, I and II. Both include the debugging software and a breakout button equipped with a five-foot cable. Because Periscope I includes a memory board, it allows debugging of non-DOS operating systems. Figures show a sample of source code interleaved by a symbolic debugger, assembly language symbols, high-level language symbols, and record definitions. A table lists selected Periscope commands.

"BREAKING THE 32MB BARRIER"
Hoffmann, Thomas V. 4:5 (May 1986):94-108.
Although DOS limits the capacity of disk volumes to 32MB, methods have been devised to circumvent this limitation. Seven products are reviewed that provide volumes larger than 32MB: Vfeature Deluxe (Golden Bow Systems); B86 internal hard disk (Bell Technologies, Inc.); Core ATplus (Core International); Emerald Series 4000/1 PS70 (Emerald Systems Corp.); Express 72F-1 external hard-disk system (Express Systems, Inc.); GAW 65MB external drive (GAW Systems); Racet PCMS-150 external system (Racet Computers, Ltd.); and TG-6180 83MB external drive with tape backup (Tallgrass Technologies). Tables cover the BIOS parameter block and compare product performance.

"BREAKPOINTS IN BIOS"
Mirecki, Ted. Tech Notebook. 3:9 (Sep 1985):35.
The wealth of system information in BIOS is hidden from many users because DEBUG breakpoints cannot be set in ROM (they insert instructions into the traced code). The assembly language listing presented makes BIOS breakpointing possible by copying BIOS into RAM and reinitializing pointers to the new copy of BIOS.

BRECHEEN, COLE
"Debugging Duo." Product Watch. 4:3 (Mar 1986): 180-182.
"Improving Turbo's I/O." 3:9 (Sep 1985):104-132.

BRECHEEN, COLE and CHARLES BRADFORD
"Modula-2 Software Development System." Product Watch. 4:9 (Sep 1986):187-188.
"XTREE." Product Watch. 4:7 (Jul 1986):167-168.

BRICKNER, RALPH G.
"Table Look-up with the PC." 1:7 (Apr 1984):196-207.

BRIDGER, MARK and JOHN FRAMPTON
"Creating a Standard LISP." 3:12 (Dec 1985):98-117.

BRINK, DAN
"Display Character Set Customization." 1:1 (Jul/Aug 1983):121-129, 196, 199.

BROWN, ROLAND M. III
"Smooth Sailing." 1:9 (Jun 1984):200-207.

BROWNING, DAVE
"End-user Development, A Data Manager for." 4:9 (Sep 1986):146-174.

"BUBBLE BOARDS"
Awalt, Don. 3:5 (May 1985):123-136.
Bubble memory is a nonvolatile solid-state memory device. It has no moving parts and is impervious to environmental disturbance. Several bubble memory board products for the PC are reviewed; all use the Intel bubble memory component: the Helix Systems' PC Bubble Disk, the HICOMP MBM-504 Bubble Drive, and Pure Data's PDIB-512 Bubble Memory Board. Figures illustrate bubble memory operation. Tables of controller commands and benchmark timings are included. *Letter References—3:7 (Jul 1985):19; 3:11 (Nov 1985):29-30.*

BUGSCREEN—RDT Software
"Entomological Explorations." 3:1 (Jan 1985):88-105.

BUILDING BLOCKS I—Software Horizons, Inc.
"Drop-in Modules for C, Part 1." 3:6 (Jun 1985):100-127.

BUILDING BLOCKS II (Power Pack 4)—Software Horizons
"Drop-In Modules for C, Part 2." 3:7 (Jul 1985):135-146.

"BUILDING DEVICE DRIVERS"
Mitchell, Stanley. 3:5 (May 1985):76-95.
The structure and function of DOS 2.0's character device drivers are explained. Such drivers let a programmer interface an unsupported keyboard, video adapter or (more typically) printer to DOS. A printer driver is used as an example of device driver construction and testing. Figures show the structure of the device header chain, attribute details, and DEBUG sessions. Assembly language listings include the printer driver and many ready-to-use segments of a generic character device driver. *Letter References—4:1 (Jan 1986):15-16; 4:3 (Mar 1986):15.*

BUSBOARD—LNW Computers
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

BUSINESS BASIC EXTENDED (BB^X)—Basis, Inc.
"Six New Shapes of BASIC." 4:6 (Jun 1986):52-75.

"BUSINESS NON-ADVICE"
Oppenheimer, Max Stul. Legal Brief. 1:7 (Apr 1984): 176-178.
A written contract is required for a transaction only if stipulated by state law. However, a written contract is advisable in all situations as protection against problems in the future. In some cases, a standard contract is sufficient; in other cases users may want to write their own contracts. Without a written contract, the manufacturer is responsible during a reasonable period of time to fix or replace goods that do not work as intended.

C

"C AND THE PC, PART 1"
Hunt, William J. 1:3 (Nov/Dec 1983):110-130.
This article reviews five C compilers: C86 (Computer Innovations), Lattice C (Lifeboat Associates), Microsoft C, C Ware Corp. C, and Manx Aztec C86. Tables compare prices, features, and benchmark test results. The C program used for benchmark testing is included. All the compilers are judged acceptable; the Computer Innovations C86 is judged the best because of its error handling and library functions. A bibliography of books about C is included as a sidebar. A second sidebar covers C-Food Smorgasbord, a collection of C utility routines for use with Lattice C. *Letter References—1:6 (Mar 1984):22; 1:7 (Apr 1984):22-26.*

"C AND THE PC, PART 2"
Hunt, William J. 1:4 (Jan 1984):91-140.
Four C Language compilers are evaluated in part two of a series that evaluates nine C compilers in all: Mark Williams CC86, Whitesmith's C Native Compiler, Digital Research C, and C-Systems C. Tables compare features, benchmark results, and memory models.

C—C Ware Corp.
"C and the PC, Part 1." 1:3 (Nov/Dec 1983):110-130.

C COMPILER—C-Systems
"State of C, The." 4:1 (Jan 1986):82-108.

C PROGRAMMING SYSTEM—Mark Williams
"State of C, The." 4:1 (Jan 1986):82-108.

C TO dBASE II—Computer Innovations, Inc.
"dBASE becomes C-Worthy." 1:9 (Jun 1984):194-198.

C TOOLS—Blaise Computing, Inc.
"Drop-in Modules for C, Part 1." 3:6 (Jun 1985):100-127.

C TOOLS 2—Blaise Computing, Inc.
"Drop-in Modules for C, Part 1." 3:6 (Jun 1985):100-127.

C UTILITIES—Software Labs
"Drop-in Modules for C, Part 1." 3:6 (Jun 1985):100-127.

C UTILITY LIBRARY—Essential Software, Inc.
"Drop-in Modules for C, Part 1." 3:6 (Jun 1985):100-127.

C86 C COMPILER—Computer Innovations, Inc.
"C and the PC, Part 1." 1:3 (Nov/Dec 1983):110-130.
"State of C, The." 4:1 (Jan 1986):82-108.

C-FOOD SMORGASBORD—Lifeboat Associates
"Drop-in Modules for C, Part 1." 3:6 (Jun 1985):100-127.

C-LIB—Vance Info Systems
"Drop-In Modules for C, Part 2." 3:7 (Jul 1985):135-146.

C-TERP—Gimpel Software
"State of C Interpreters, The." 4:5 (May 1986):153-163.

C-TOOLS—XOR Corp.
"Drop-in Modules for C, Part 1." 3:6 (Jun 1985):100-127.

C-WINDOW—C-Systems
"C and the PC, Part 2." 1:4 (Jan 1984):91-140.

"CADD SOLUTION, A"
Wright, Victor E. 4:3 (Mar 1986):86-108.
CADVANCE is a production drafting system from Calcomp. CADVANCE allows for symbols to be created and used; facilities for symbol library management are included. Macros can be created from a sequence of CADVANCE commands and macro programming language (MPL) expressions and functions. A database extraction program manages nongraphic data; it provides database management and report generation features normally associated with larger systems. CADVANCE's plotting facility is excellent, and its drawing production is paramount. The MPL provides the means to customize the package for certain applications. Photos show screen display, dimensioning and window facilities, and the macro feature.

CADKEY—Micro Control Systems
"Mechanical CAD." 4:6 (Jun 1986):80-95.

CADVANCE—Calcomp, Personal Systems Unit
"CADD Solution, A." 4:3 (Mar 1986):86-108.

"CALENDAR FOR THE AGES, A"
Covington, Michael A. 3:12 (Dec 1985):136-142.
A set of generic Pascal date routines is presented that can provide accurate calendrical calculations using any date between 4713 B.C. and 5000 A.D. When provided with a day, a month, and a year, the routines supply the user with a date code. Using the date code, the routines determine the day, the month, the year, and the day of the week. A history of Julian and Gregorian calendars, leap years, and astronomical formulae are used to help reveal the complexity of the calculations performed by the routines. A listing gives source code for the routines.

"CALIFORNIA 10-PACK, THE"
Glinert-Cole, Susan. 1:3 (Nov/Dec 1983):78-83.
The California 10-Pack is a set of ten utility programs for the IBM PC that permits viewing files and memory, directory sorting, and object code file disassembly. The package provides valuable utilities for the novice as well as the advanced programmer. Documentation is adequate. Figures show sample output from some utilities.

CALIFORNIA 10-PAK—California Software Products
"California 10-Pack, The." 1:3 (Nov/Dec 1983):78-83.

CAMAZINE, SCOTT and WESTY DAIN
"Computer-Generated Stereoscopic Images." 1:1 (Jul/Aug 1983):57-60, 191-194.

CARBON COPY—Meridian Technology
"Controlling from Afar." 4:4 (Apr 1986):84-93.

CARTER, TOM
"Accessing the Serial Port from COBOL." 1:2 (Sep/Oct 1983):90-103.
"Load and Go: COM and EXE Files Explained." 1:2 (Sep/Oct 1983):136-149.

"CASE OF THE MISSING PROGRAMMER, THE"
Oppenheimer, Max Stul. Legal Brief. 2:5 (Nov 1984):204-206.
Purchasing software without purchasing the software's source code may make the program useless when the original programmer is no longer available. A source-code escrow arrangement is advised to protect the purchaser when the programmer is no longer willing to maintain the program.

CASEY, WILLIAM
"Mainframe Compatibility, A Data Manager with." 3:11 (Nov 1985):124-144.
"Reflex." Product Watch. 4:4 (Apr 1986):189-194.

"CCP/M-86"
Awalt, Don. 1:6 (Mar 1984):64-76.
CCP/M-86 is a new version of CP/M that includes concurrent processing capabilities. The advantages of multitasking over single-tasking within CCP/M-86 are many. CCP/M-86 is slower than MS-DOS, even when running in a single-task environment. Tables of commands and function calls are provided. Figures show diagrams of concurrent CCP/M-86 resident software and a dispatch algorithm. A sidebar covers on CCP/M-86 performance.

CCP/M-86—Digital Research, Inc.
"CCP/M-86." 1:6 (Mar 1984):64-76.

CHALLENGER—Advanced Logic Research, Inc.
"And the Winners Are." Product of the Month. 3:6 (Jun 1985):23.

CHANDLER, RICHARD and GARY FAULKNER
"Painter's Algorithm, The." 3:11 (Nov 1985):181-187.
"Virtual Graphics Screen, A." 4:9 (Sep 1986):134-143.

CHANDLER, RICHARD, MICHAEL DAVIS, and GARY FAULKNER
"Sixteen-color Graphics." Programming Practices. 4:8 (Aug 1986):159-171.

"CHANGE IN COMMAND, A"
Nisley, Edward. 3:7 (Jul 1985):149-156.
The SET COMSPEC command, which is intended to allow the user to put the string that describes the location of COMMAND.COM on a VDISK or hard disk, does not work in DOS 2.0 and 2.1. These versions of DOS continue to try and reload COMMAND.COM from the root directory of the disk drive used during system initialization. This bug can be fixed using the COMZAP.ASM program, which forces DOS 2.0 and 2.1 to reload COMMAND.COM using the file name specified by SET COMSPEC. A listing provides the code for the program.

CHASM—Whitman Software
"PASM, TASM, and CHASM." 3:12 (Dec 1985):161-169.

CHATURVEDI, ATINDRA N.
"Tree Structures. Part 1." 3:2 (Feb 1985):78-87.
"Tree Structures, Part 2." 3:3 (Mar 1985):131-158.

CHAUFFEUR—STB Systems, Inc.
"Drawing Toward Monochrome." 4:1 (Jan 1986):70-77.

"CHECKING OUT THE LIBRARIANS"
Thomas, Kuryan. 2:4 (Oct 1984):80-90.
This evaluation of two object module librarian programs, PolyLibrarian (Polytron Corp.) and SR-LIB (Software Research), considers the documentation, user friendliness, and general capabilities of each. While SR-LIB is recommended to users whose programming needs are relatively small, PolyLibrarian is a powerful and polished product. A table shows PolyLibrarian's functions.

"CHIPS IN TRANSITION"
Smith, Bob. 4:4 (Apr 1986):56-69.
The Intel 8086/88, 80186/88, and 80286, and the NEC V20 and V30 are compared. The differences are described between the instruction sets in the various microprocessors, including the ways each component implements the same instruction. The article also encompasses the differences between the 8087 and 80287 numeric coprocessors. An assembly language listing is given that allows the CPU in a machine to be uniquely identified. *Letter References—4:7 (Jul 1986):15-18.*

CHRISTENSEN, WARD
"Breaking out with Periscope." 4:3 (Mar 1986):65-73.

CHRISTIAN, CHRIS
"Diverse Environments, A Data Manager for." 3:8 (Aug 1985):52-71.
"Head Start on Program Generation, A." 1:9 (Jun 1984):146-177.
"Intelligent Screen Forms, A Data Manager for." 4:1 (Jan 1986):126-142.
"Take III." 3:1 (Jan 1985):64-84.

CHUMBLEY, JAMES
"Testing 1,2,3,4,5." 3:5 (May 1985):142-152.

CHURCHILL, BRUCE W.
"EtherSeries." 1:3 (Nov/Dec 1983):86-106.
"PCnet—For the IBM PC Low-cost Networking." 1:2 (Sep/Oct 1983):50-63.
"PLAN 4000." 1:5 (Feb 1984):58-70.

CI-C86—Vandata
"C and the PC, Part 1." 1:3 (Nov/Dec 1983):110-130.

CICIS PC—Western Telecomputing Corp.
"Digitizing Analog Data." 4:5 (May 1986):52-71.

CLARION—Barrington Systems, Inc.
"Coding in a New Light." 4:9 (Sep 1986):84-99.

CLINGER, BARBARA
"Video I/O and Graphics with IBM Pascal." 1:6 (Mar 1984):179-182.

"CLUSTERS OF WRATH"
Glinert-Cole, Susan. 2:2 (Aug 1984):64-72.
The IBM Cluster is IBM's network control processor system for use with various IBM PCs. One table lists the cluster diskettes' programs. A figure shows the cluster server structure. The cluster environment is tested. Tables show results using various BUFFERS. The network is slow and has access problems. Users are advised to seek more powerful network systems. A photo of the cluster's components is included.

COAX/3270—Emulex Corp.
"Emulating the 3278." 4:2 (Feb 1986):48-63.

COBOL—IBM
"12 Functional Modules of ANS COBOL, The." 1:7 (Apr 1984):76-82.

"COBOL PERFORMS, PART 1"
Mirecki, Ted. 3:6 (Jun 1985):58-83.
Two COBOL compilers are reviewed in this first of a series of three articles: Realia COBOL and Ryan-McFarland RM COBOL. Compile-time and runtime performance is analyzed, as is the compilers' adherence to the ANSI standard. Realia is a big, capable compiler, faster than most others. It falls short of high-level certification, but provides everything needed for serious application development. Ryan-McFarland COBOL is a capable performer, but is overpriced in comparison to its capabilities. *Letter References—3:11 (Nov 1985):15-18.*

"COBOL PERFORMS, PART 2"
Mirecki, Ted. 3:7 (Jul 1985):111-133.
This is the second of three articles on COBOL compilers. Reviewed are: Microsoft COBOL version 2.0, Micro Focus Level II COBOL version 2.62, and Digital Research Level II COBOL version 3.0. Tables compare the compilers' performance, runtime system size, benchmarks, and computational data types. A listing shows the program used to test the internal sort of the compilers.

"COBOL PERFORMS, PART 3"
Mirecki, Ted. 3:8 (Aug 1985):107-136.
This third of three articles on COBOL reviews IBM COBOL version 1.0, mpb COBOL version 9.0, and Micro Focus Professional COBOL version 1.1. Tables compare features, compilation speeds, code sizes, benchmark results, and computational data types for these three compilers as well as the five compilers reviewed in the first two parts of the series. Micro Focus professional COBOL is rated the best of the eight products reviewed. *Letter References—3:10 (Oct 1985):15; 4:2 (Feb 1986):15-16.*

COCKERHAM, JOHN T.
"EGA Spectrum, The." 4:10 (Oct 1986):80-86.
"EGA Standard, The." 4:10 (Oct 1986):48-79.
"Modula-2/86 Base Language System." Product Watch. 4:9 (Sep 1986):188-190.

CODESMITH-86—Visual Age
"Entomological Explorations." 3:1 (Jan 1985):88-105.
"Two New Ways to Drive the Bugs Away." 1:8 (May 1984):110-128.

"CODING IN A NEW LIGHT"
Mirecki, Ted. 4:9 (Sep 1986):84-99.
Clarion from Barrington Systems, Inc. is a business-oriented programming language, similar in some ways to COBOL and PL/1. The language is embedded within a system of interactive utilities that facilitates fast creation and testing of business-oriented applications. Screen generation and help system generation are particularly strong, while file management is not as impressive. Developers license the system for distribution with application packages by purchasing hardware execution keys that are required to run the program.

COHERENT—Mark Williams
"Reflections of UNIX." 3:5 (May 1985):54-73.

COLE, JOHN
"Keyboard and Display Interfacing." 1:7 (Apr 1984):182-194.

"COLOR, PLUS"
Hoffmann, Thomas V. 1:2 (Sep/Oct 1983):66-81.
The Colorplus Graphics Adapter is functionally equivalent to the IBM Color Graphics Adapter, with the addition of two extended graphics modes and a parallel printer interface. The two extended graphics modes are 320-by-200 in 16-color and 640-by-200 in 4-color. The bitmap is divided into two parallel planes, with half the bits for a given pixel in each plane. Details on programming the board are given, and a BASIC program for exercising the various modes is shown. Tables give colors and pixel mapping schemes, and graphics software is listed.

COLORPLUS—Plantronics/Frederick Electronics
"Color, Plus." 1:2 (Sep/Oct 1983):66-81.

COLSHER, WILLIAM L.
"Sharing Files." 2:5 (Nov 1984):99-115.

COMM + 4—Sealevel Systems, Inc.
"Beyond COM2." 4:9 (Sep 1986):68-79.

"COMMAND LINE REDIRECTION"
Mitchell, Stanley. Tech Notebook. 4:1 (Jan 1986):44.
A debugging session using the IBM Professional Debug Facility (RDT) shows how file handles are manipulated for command-line redirection. A five-line program that evokes RDT is presented. The details of appending files and filtering with Ctrl-Zs also are shown.

COMMENTARY
"Adventures in COMDEXland." Directions. 3:1 (Jan 1985):5-6.
"AT vs RT." Directions. 4:4 (Apr 1986):7-8.
"ATtention to Detail." Directions. 2:6 (Dec 1984):5-6.
"Automatic PCs." Directions. 4:3 (Mar 1986):11-12.
"Bigger, Smaller, Faster, Slower." Directions. 4:6 (Jun 1986):11-12.
"Borland Magic." Directions. 3:6 (Jun 1985):9-10.
"Compatibility Trap, The." Directions. 3:2 (Feb 1985):9-10.
"dBASE II Hangs On." Directions. 1:9 (Jun 1984):5-6.
"Data Interchange." Directions. 3:10 (Oct 1985):9-10.
"Database Programs are Complex." Directions. 1:5 (Feb 1984):11-12.
"Debugging." Directions. 1:8 (May 1984):5-6.
"Editorial Voices." Directions. 3:11 (Nov 1985):9-10.
"Enhanced Standard, The." Directions. 4:10 (Oct 1986):13-14.
"Environmental Engineering." Directions. 3:3 (Mar 1985):9-10.
"Graphics." Directions. 2:4 (Oct 1984):5-6.
"Graphics (Again)." Directions. 3:7 (Jul 1985):9.
"Hard (or is it Fixed?) Disk Revolution, The." Directions. 2:5 (Nov 1984):5-6.
"Help!." Directions. 2:1 (Jul 1984):5-6.
"Impressions from COMDEX." Directions. 4:2 (Feb 1986):11-12.
"LAN of IBM, The." Directions. 4:1 (Jan 1986):9-10.
"Livin' In the D.O.S." Directions. 3:12 (Dec 1985):9-10.
"Long Live the 286." Directions. 4:8 (Aug 1986):9-10.
"Mainframe Strategy." Directions. 3:5 (May 1985):9-10.
"Mice Are Nice." Directions. 2:2 (Aug 1984):5-6.
"Microsoft Re-emerges." Directions. 3:4 (Apr 1985):9-10.
"Objects and Attributes." Directions. 4:7 (Jul 1986):9-10.
"On the Matter of Performance." Directions. 1:2 (Sep/Oct 1983):10-15.
"Onward, FORTH." Directions. 4:9 (Sep 1986):9-10.
"PC*jr*." Directions. 1:4 (Jan 1984):10-11.
"PC/IX." Directions. 1:7 (Apr 1984):11-16.
"Printer Standards." Directions. 2:3 (Sep 1984):5-6.
"Problem of Computer Semantics, The." Directions. 1:3 (Nov/Dec 1983):10-12.
"Programmer Productivity." Directions. 4:5 (May 1986):11-12.
"Software Protection." Directions. 1:6 (Mar 1984):11-16.
"To Support or Not to Support." Directions. 3:8 (Aug 1985):9-10.
"User's Rights." Directions. 3:9 (Sep 1985):9-10.
"What Hath Z-D Wrought?." Directions. 1:1 (Jul/Aug 1983):5,10,14,180.

"COMMUNICATING FROM WITHIN"
Hansen, Augie. 3:9 (Sep 1985):60-77.
Thirteen internal modems are evaluated: AJ Connection (Anderson Jacobson Inc.); Encore 1200B (OmniTel); Era 2 (Microcom, Inc.); IntelliModem XT (Bizcomp); Maxwell 1200PC (Racal-Vadic); Microlink (US Robotics); PC212A (Rixon, Inc.); PC Modem Half Card (Ven-Tel, Inc.); POPCOM C100 (Prentice Corp.); ProModem 1200B (PROMETHEUS Products); Reach ! (AST Research, Inc.); Smart-Cat PLUS (Novation, Inc.); Smartmodem 1200B (Hayes Microcomputer Products, Inc.). Tables list the supported hardware features, communications program features, modem registers, and modem commands. Figures show single- and multiline connections and parallel and series connections. A sidebar contains a discussion of the Hayes Standard. *Letter References—4:4 (Apr 1986):21.*

COMMUNICATIONS
"ACS or PCM: The Better to Communicate With." 2:2 (Aug 1984):155-177.
"Asynchronous X.25." Product of the Month. 3:11 (Nov 1985):39.
"Beyond COM2." 4:9 (Sep 1986):68-79.
"BLUELYNX Advanced COAX." Product Watch. 4:4 (Apr 1986):189.
"Clusters of Wrath." 2:2 (Aug 1984):64-72.
"Communicating from Within." 3:9 (Sep 1985):60-77.
"Controlling from Afar." 4:4 (Apr 1986):84-93.
"Courier 2400." Product of the Month. 3:5 (May 1985):25.
"CRC Calculation." 3:4 (Apr 1985):118-133.
"Crosstalking." 2:1 (Jul 1984):90-108.
"Davong's Multilink: Versatility at a Moderate Price." 1:6 (Mar 1984):78-87.
"Electronic Messaging." 3:2 (Feb 1985):141-149.
"Emulating the 3278." 4:2 (Feb 1986):48-63.
"EtherSeries." 1:3 (Nov/Dec 1983):86-106.
"Experiment in Software Marketing: FREEWARE, An." 1:2 (Sep/Oct 1983):158-161.
"5251 Connection, The." 4:7 (Jul 1986):76-89.
"High-tech Mimicry." 2:3 (Sep 1984):46-55.
"Instant Relay." 2:4 (Oct 1984):94-112.
"Kermit." 3:1 (Jan 1985):110-123.
"Making Connections." 3:5 (May 1985):47-51.
"Modems Demystified." 2:1 (Jul 1984):73-88.
"More Ports." Tech Notebook. 3:3 (Mar 1985):32.
"NetWare in Control." 3:11 (Nov 1985):102-119.
"Network For All Reasons, A." 2:6 (Dec 1984):90-106.
"New Twist on Networking, A." 1:8 (May 1984):168-185.
"Omnium-Gatherum." 2:3 (Sep 1984):56-62.
"PC-TALK: Communications Control." 1:2 (Sep/Oct 1983):162-166.
"PCnet—For the IBM PC Low-cost Networking." 1:2 (Sep/Oct 1983):50-63.
"Personal CICS." 3:12 (Dec 1985):171-178.
"PLAN 4000." 1:5 (Feb 1984):58-70.
"Screenspeak." 2:5 (Nov 1984):151-170.
"Sharing Files." 2:5 (Nov 1984):99-115.
"SNA Strategies." 3:7 (Jul 1985):40-53.
"Telios." 3:1 (Jan 1985):130-139.
"Two Views of the LANscape." 1:4 (Jan 1984):54-65.
"Ventel." Product Watch. 4:10 (Oct 1986):185-188.
"Watson System, The." Product Of The Month. 3:8 (Aug 1985):29.

COMMUNIQUE—Computerized Office Services, Inc.
"High-tech Mimicry." 2:3 (Sep 1984):46-55.

"COMPAQ DESKPRO 286"
Armbrust, Steven and Ted Forgeron. 4:8 (Aug 1986): 80-91.
This first in *PC Tech Journal*'s series on AT-compatible machines considers the Compaq Deskpro 286. The machine is fully compatible with the IBM PC/AT and offers additional features as well. The Deskpro 286 can run as a 6- or an 8-MHz machine and users can switch from 6 to 8 MHz from the keyboard or using the DOS MODE command. The machine offers three modes of operation, and a tape backup system is standard. All Compaq models have a dual-mode monitor and display adapter (similar to the IBM Color Graphics Adapter but with the extra capability of supporting high-resolution characters). A table lists results of compatibility and performance tests. A sidebar covers the Compaq Portable II.

COMPAQ PORTABLE II, MODEL 3—Compaq
"Compaq Deskpro 286." 4:8 (Aug 1986):86-87.
"Portable II, The." Product of the Month. 4:6 (Jun 1986):31.

"COMPARING GREAT THINGS WITH SMALL"
Gleckler, Arthur A. 2:3 (Sep 1984):65-75.
The low-end IBM PC Compact Printer and IBM Color Graphics Printer are reviewed. The Compact Printer is a thermal printer suitable for use with the PC*jr*. It lacks many features of the Color Graphics Printer and includes only a subset of the latter's commands. The Color Graphics Printer is a large, sturdy, and expensive device that prints text and graphics in red, blue, yellow, black, or any combination thereof. Figures show sample output produced by the three text modes of the Color Graphics printer. Tables list the printers' functions.

"COMPARING STRUCTURES"
Swan, Tom. Tech Notebook. 3:7 (Jul 1985):36.
A Turbo Pascal function compares arbitrary record structures for equality by treating them as arrays of bytes. Swan's method does not always work because Turbo does not reinitialize string fields. Readers and the author provide solutions to this problem in the referenced letters. *Letter References—3:9 (Sep 1985):18-19.*

"COMPATIBILITY RISK, THE"
Oppenheimer, Max Stul. Legal Brief. 3:4 (Apr 1985): 179-181.
To avoid accusations of copyright infringement, a manufacturer of compatibles may have to prove that its code has been produced by a team that had access only to the requirements for compatibility without having any access to the code of the target for compatibility. Another procedure is to arrive at some agreements with the target company in advance to forestall lawsuits. Having failed in this approach, NEC (Nippon Electric Corp.) is suing Intel to prevent Intel from suing NEC for infringement. The outcome of this suit will have far-reaching consequences for compatible manufacturers. The author also reviews income tax laws pertaining to PC use.

"COMPATIBILITY TRAP, THE"
Fastie, Will. Directions. 3:2 (Feb 1985):9-10.
IBM has done an excellent job of maintaining compatibility in its line of personal computers. As IBM supports more hardware, program developers must decide what they will support. IBM will probably soon announce machines and operating environments that do not support all the options of the current PC family. If so, the company should announce a set of core standards that it will support in the future.

"COMPATIBLES AND COPYRIGHTS"
Oppenheimer, Max Stul. Legal Brief. 2:6 (Dec 1984): 210-215.
Copyright protects artistic expression, not ideas. The author discusses the problems of developing a ROM BIOS for a PC-compatible microcomputer that is functionally equivalent to the IBM ROM BIOS, yet does not infringe upon IBM's copyright.

"COMPILED/INTERPRETED BASIC CHECK"
Ford, Nelson. 1:5 (Feb 1984):178-179.
IBM Compiled BASIC and Interpreted BASIC have incompatibilities. While the interpreter can pass USR statement arguments, the compiler cannot. ERASE can only reclaim memory in the interpreted version. Program listings provide tests to determine whether a BASIC program is compiled or interpreted.

"COMPLEX APPLICATIONS, A DATA MANAGER DESIGNED FOR"
Phelps, Kent. 4:2 (Feb 1986):160-176.
Revelation by Cosmos is an excellent development platform for serious projects. Based on the minicomputer PICK operating system, it is compatible with many PICK-based minicomputers and their software and file structures. The article details minicomputer interfacing, the Revelation/PC-DOS interfaces, file structure, query and database manipulation languages, system security, multiuser applications, and system performance. The *PC Tech Journal* sample application is implemented in Revelation. Benchmark results are given in a table; the code for one of the benchmark programs is listed. A table and figure show a sample dictionary definition and examples of automatically generated file documentation. A sidebar summarizes the capabilities of the data manager. *Letter References—4:7 (Jul 1986):15.*

"COMPUTER CRIME"
Oppenheimer, Max Stul. Legal Brief. 2:3 (Sep 1984): 188-190.
Operators of computer bulletin boards are warned that they may be held responsible for illegal messages left on their boards. An update is given on a law that prohibits imports of products bearing a federally registered trademark; Apple has used the law to prosecute manufacturers of illegally produced Apple look-alikes. The results of an American Bar Association survey on computer crime are given. The survey was sent to Fortune 500 companies in order to uncover the extent of computer crime and to determine ways to prevent or diminish its occurrence.

"COMPUTER-GENERATED STEREOSCOPIC IMAGES"
Camazine, Scott and Westy Dain. 1:1 (Jul/Aug 1983): 57-60, 191-194.
Mechanisms that allow humans to perceive objects as three-dimensional, including binocular disparity, are discussed. Equations are included that can be used to convert one set of points in space to two sets of points: one to be viewed by the left eye and one by the right. Also included are three program listings that use these equations to generate example three-dimensional figures. A fourth program generates two squares of random dots that do not show a pattern until viewed stereoscopically. Drawings of output from all four programs are shown.

"CONCURRENT ENVIRONMENTS"
Awalt, Don. 3:12 (Dec 1985):52-65.
Eight products that bring concurrency to the IBM PC family are reviewed: APX Core Executive (Application Executive Corp.); Concurrent PC-DOS (Digital Research, Inc.); DESQview (Quarterdeck Office Systems); DoubleDOS (Soft Logic Solutions, Inc.); E-Z-DOS-IT (Hammer Computer Systems, Inc.); MultiLink Advanced (The Software Link, Inc.); TopView (IBM); and Windows (Microsoft). Tables compare product features and list interrupts. *Letter References—4:5 (May 1986):17-21.*

"CONCURRENT PC-DOS"
Awalt, Don. 3:3 (Mar 1985):45-54.
Concurrent PC-DOS 3.2, by Digital Research, Inc., boasts five significant features: support for multitasking with up to four windows; a multiuser capability that allows up to three people to use a single PC; the ability to run DOS

programs with no change to source code; the ability to be installed on a hard disk formatted for CCPM-86 or DOS with applications programs of either type. Tables list DOS programs tested under C/PC-DOS, C/PC-DOS commands, and DRTALK program commands. A figure shows multiuser performance benchmarks. *Letter References—3:6 (Jun 1985):15; 3:9 (Sep 1985):19-20.*

CONCURRENT PC-DOS—Digital Research, Inc.
"Concurrent Environments." 3:12 (Dec 1985):52-65.
"Concurrent PC-DOS." 3:3 (Mar 1985):45-54.

"CONFIGURATIONS AND PRICING IN THE IBM FAMILY"
Fastie, Will. 2:6 (Dec 1984):58-70.
The configuration and pricing of the PC/AT is examined, in comparison with other IBM personal computers, as well as five systems manufactured by other vendors. The two models of the AT, the base and enhanced version, are compared first, and are subsequently examined in relation to the PC and PC/XT. Two tables provide detailed price breakdowns as well as total costs for each of the three IBM systems. A figure illustrates price differences between the systems, and tables provide detailed price information and available system features. A comprehensive IBM product center price list is also included.

"CONSIDERING PL/1"
Barnes, Robert. 3:8 (Aug 1985):82-102.
The PL/1 programming language was created in the 1960s as a universal programming language for commercial, scientific, and systems work. Digital Research Inc's three-pass PL/1-86 compiler version 1.0 contains most of the essential mainframe PL/1 features, including a proprietary assembler and linker for performing low-level system interface. Tables show compile times, program sizes, and execution speed for sample PL/1 programs run using PL/1-86. A figure shows a sample RECORD I/O. Listings present sample programs and benchmarks.

CONSTELLATION 60 ETP—Orion Computer Products
"Moving up to Tape." 3:11 (Nov 1985):62-83.

"CONTROLLED PLOTTING USING THE IBM PC"
Hockswender, Thomas. 1:1 (Jul/Aug 1983):101-103, 194-196.
A graph with *x* and *y* values can be plotted on the IBM Color Graphics Adapter (CGA) with linear transformations of data. Three types of variables are used in the transformation equations: data space variables that define the maximum and minimum values of *x* and *y*; window variables that define limits for the display unit; and hardware variables that define limits set by the hardware. Included are the linear transformation equations and two BASIC programs that use the equations to plot sine curves. Output screen plots are reproduced.

"CONTROLLING FROM AFAR"
Hansen, Augie. 4:4 (Apr 1986):84-93.
The remote features of Carbon Copy (Meridian Technology), LYNC (Norton-Lambert) and REMOTE (Microstuf Inc.) are discussed. The controlled PC is connected to the remote PC by standard telephone circuits via modems. The issues involved with the operation of various types of programs (including transferring of graphics or data, the unattended and attended remote machine) and how each program implements the solution are described. A figure diagrams copying files across the systems, and a table compares the remote control features. Sidebars describe the remote mail system available with REMOTE and the telecommunications facilities of LYNC. *Letter References—4:7 (Jul 1986):24.*

"CONTROLLING INPUT USING INKEY$"
Ford, Nelson. 2:2 (Aug 1984):32-39.
A BASIC keyboard input routine allows a program to process numeric pad keystrokes without disrupting screen layout. The INKEY$ function provides the control. The program is listed and described in detail. *Letter References—2:5 (Nov 1984):20.*

CORE ATPLUS—Core International
"Breaking the 32MB Barrier." 4:5 (May 1986):94-108.

"COURIER 2400"
Duntemann, Jeff. Product of the Month. 3:5 (May 1985):25.
The Courier 2400 (U.S. Robotics) is a 2400-baud direct-connect modem. In addition to offering increased speed of communications, it has help screens built into its ROM. The Courier 2400 also returns a result code to indicate what kind of response it got to an attempt to dial a number. Its switches are conveniently located. The modem works well and is an excellent value. *Letter References—3:7 (Jul 1985):19.*

COURIER 2400—U.S. Robotics, Inc.
"Courier 2400." Product of the Month. 3:5 (May 1985):25.

COVINGTON, MICHAEL A.
"Better CGA, A." 4:7 (Jul 1986):137-140.
"Calendar for the Ages, A." 3:12 (Dec 1985):136-142.
"Documentation That Works." 3:1 (Jan 1985):165-172.
"Joystick Metrics." 3:5 (May 1985):99-109.
"Power of Turbo Pascal, The." 3:2 (Feb 1985):112-123.
"Programming In Logic, Part 1." 3:12 (Dec 1985):82-95.
"Programming in Logic, Part 2." 4:1 (Jan 1986):145-155.
"Reset the Printer." Tech Notebook. 4:4 (Apr 1986):52.
"Smooth Curves." 4:8 (Aug 1986):110-120.

COWART, ROBERT
"Some Technical Aspects of dBASE II." 1:9 (Jun 1984): 56-63.

"CRC CALCULATION"
Schwaderer, W. David. 3:4 (Apr 1985):118-133.
The message cyclic redundancy check (CRC) is the most common method of detecting transmission errors. A value is generated from data characters in the transmission, sent as the final part of the message, and then regenerated at the receiving end for comparison with the transmitted value. If the original and regenerated values match, then the transmission can be assumed to have been without error. Polynomials are considered and their suitability for CRC purposes is examined. Listings to compute a CRC value are given in BASIC and C. Figures and tables illustrate these methods. *Letter References—3:8 (Aug 1985):16-21; 3:8 (Aug 1985):24.*

CREANE, JAMES
"Intel Bibliography for iAPX 286, An." 2:6 (Dec 1984): 140-144.
"Limited Joys of Translated Software, The." 3:1 (Jan 1985):142-160.

"CREATING A STANDARD LISP"
Bridger, Mark and John Frampton. 3:12 (Dec 1985): 98-117.
Golden Common LISP (GCLISP) from Gold Hill Computers is a mainframe-like LISP for the IBM PC that uses the LISP standard, Common LISP. GCLISP comes with a mulit-buffered full screen editor (GMAS) and a limited tutorial called the San Marcos LISP Explorer. Due to PC memory limitations, GCLISP is mainly a learning tool. A table shows Common LISP's SETF macro, which replaces REPLICA! and SELECT-ELEMENT in other LISPs. A second table shows benchmark timings for iterative, recursive, and floating-point operations on the PC/XT and PC/AT. A listing provides benchmark source code.

"CREATING BOUNCE BAR MENUS"
Duntemann, Jeff. 1:7 (Apr 1984):75.
A bounce bar menu is a menu using a reverse-video-highlighted bar. If the user presses the Enter key while a bar is highlighted, a menu selection is made. A BASIC subroutine lists the bounce bar technique. Ideas are given for customizing the program.

CRENSHAW, KEVIN M.
"Rev Up the AT Keyboard." Tech Notebook. 3:5 (May 1985):39.

CRIOS—LRM Systems
"Drop-In Modules for C, Part 2." 3:7 (Jul 1985):135-146.

CROSSTALK XVI—Microstuf, Inc.
"Crosstalking." 2:1 (Jul 1984):90-108.
"High-tech Mimicry." 2:3 (Sep 1984):46-55.

"CROSSTALKING"
Hansen, Augie. 2:1 (Jul 1984):90-108.
Crosstalk XVI (Microstuf Inc.) is a communications software package requiring 96KB of memory. It is command-driven, but menus are available that list the commands. Photos show screen displays of menus, and tables list the commands. The documentation is helpful to the new user. Crosstalk provides two binary file transfer protocols: XMODEM and a proprietary protocol that was available on earlier versions of the program. Although it is more expensive than most communications software packages, Crosstalk is recommended.

CRYPT MASTER—Digital Signatures
"Encryption Software." 3:6 (Jun 1985):162-179.

"CURVES MADE SIMPLE"
Leiber, Frank G. 4:1 (Jan 1986):159-170.
GRAPH-2D.BAS is a BASIC program that permits the user to plot data without becoming involved in the technical aspects of the PC's graphics commands. The program accepts a list of data points contained in a sequential data file and generates a completed graph. The article describes the operation of the program, the data file format, and several sample graphs. Figures show curves generated by the program. The BASIC program listing accompanies the article.

"CUSTOM CHARACTERS"
DeLoach, Allen. Tech Notebook. 3:10 (Oct 1985):45.
A method is described to create custom graphics characters on the IBM PC. The user creates a table defining the characters' shapes and storing the address of the first byte of the table in the BIOS data area in the external pointer interrupt location (label EXT_PTR at 7CH). A listing

shows a demonstration program that uses the absolute address extensions of Turbo Pascal. A figure shows the definition of a hollow box character.

"CUSTOM COMMANDS"
Mirecki, Ted. Tech Notebook. 3:3 (Mar 1985):37.
DEBUG can be used to patch COMMAND.COM and rename DOS internal commands at the user's discretion. This makes it possible to replace internal commands with external ones and to eliminate the original DOS version of the command from the system.

"CUSTOMIZED BOOTS"
Abrash, Michael and Dan Illowsky. 3:2 (Feb 1985): 150-159.
The system disk's boot record typically loads DOS, but custom boot record modifications can speed the booting process, save space on the disk, and permit faster disk production. A sample customized boot is listed in assembly language. Step-by-step instructions are provided for creating a specialized boot record.

"CUSTOMIZED SCROLLING"
Keller, Harry E. Programming Practices. 4:1 (Jan 1986):173-187.
Scrolling the screen of a PC can be accomplished using software and the registers of the 6845 display controller chip. These methods allow only vertical scrolling, not horizontal. BASIC and the assembly language programs are presented to correct this limitation and allow the user to scroll the screen horizontally. The programs move the characters within the display area so the upper left corner of the screen is always at the beginning of the buffer. Scrolling on both monochrome and graphics displays is detailed. Listings are included.

CX/PC—Intr-Soft
"Multitasking Methods." 4:3 (Mar 1986):49-61.

CXI PCOX/5251 TWINAX EMULATOR—CXI, Inc.
"5251 Connection, The." 4:7 (Jul 1986):76-89.

D

DAETWYLER, DAN
"Ensuring Data Integrity." Tech Notebook. 4:3 (Mar 1986):44.
"Professional Debugging." 3:3 (Mar 1985):60-70.

DAIN, WESTY and SCOTT CAMAZINE
"Computer-generated Stereoscopic Images." 1:1 (Jul/Aug 1983):57-60, 191-194.

DAN BRICKLIN'S DEMO PROGRAM—Software Garden
"Prototypes in Motion." Product of the Month. 4:3 (Mar 1986):29.

DASCON-1—Metrabyte Corp.
"Digitizing Analog Data." 4:5 (May 1986):52-71.
"Poor Richard's Converter: From A to D." 2:3 (Sep 1984):30-41.

"DASHED CURSOR, THE"
Pierce, Paul. Tech Notebook. 3:12 (Dec 1985):47.
Programs that are run on a monochrome display sometimes return the cursor to the screen as a dash instead of an underline. The problem arises when BIOS sets the video mode for the CGA and a monochrome adapter actually is in use. An assembly language program that accompanies the article can be used to detect and correct an incorrect RAM cursor mode.

"DATA ACQUISITION"
Murray, William H. 3:7 (Jul 1985):101-108.
The IBM Data Acquisition and Control Adapter and supporting software for the PC/XT and PC/AT family permits four channels of multiplexed analog input, two channels of analog output, one 16-bit binary input port, one 16-bit binary output port, and one 16-bit addressable counter. The software support allows programming in FORTRAN (version 2.0 or Professional), C (Lattice version 2.0), and BASIC (compiled or interpreted). Listings explain how the adapter is accessed in each language.

DATA ACQUISITION AND CONTROL ADAPTER—IBM
"Data Acquisition." 3:7 (Jul 1985):101-108.

DATA ACQUISITION AND CONTROL DISTRIBUTION PANEL—IBM
"Data Acquisition." 3:7 (Jul 1985):101-108.

DATA ACQUISITION AND CONTROL PROGRAMMING SUPPORT—IBM
"Data Acquisition." 3:7 (Jul 1985):101-108.

DATA ACQUISITION BOARD—IBM
"Digitizing Analog Data." 4: 5 (May 1986):52-71.

DATA ENCODER—IBM
"Encryption Software." 3:6 (Jun 1985):162-179.

"DATA INTERCHANGE"
Fastie, Will. Directions. 3:10 (Oct 1985):9-10.
Data interchange is the biggest problem facing developers today, yet little is being done to standardize data formats. Integrated software packages were designed to address the problem; they exchange data internally using proprietary data formats. However, integrated packages do not offer the same functionality as stand-alone products. Two text processing formats may be the seed for the broader standard: IBM's Document Content Architecture (DCA) and Adobe's PostScript language. The industry must agree to adhere to one format.

DATA MANAGEMENT
"Bomb Proofing." 1:9 (Jun 1984):64-68.
"Complex Applications, A Data Manager Designed for." 4:2 (Feb 1986):160-176.
"dBASE II File Structures." 1:9 (Jun 1984):46-55.
"dBASE II Becomes C-Worthy." 1:9 (Jun 1984):194-198.
"dBASE II Programming Techniques." 1:9 (Jun 1984): 72-78.
"dBASE II with Ambition." 1:9 (Jun 1984):181-191.
"Diverse Environments, A Data Manager for." 3:8 (Aug 1985):52-71.
"End-user Development, A Data Manager for." 4:9 (Sep 1986):146-174.
"Entity-Relationships, A Data Manager Using." 3:10 (Oct 1985):96-126.
"Evaluating Data Managers as Development Tools." 3:8 (Aug 1985):46-51.
"Evolving Standard, A Data Manager with an." 4:5 (May 1986):166-188.
"Fields, Items, and Systems." 2:5 (Nov 1984):117-131.
"Flexible Designs, A Data Manager for." 4:6 (Jun 1986):156-182.
"Head Start on Program Generation, A." 1:9 (Jun 1984):146-177.
"Intelligent Screen Forms, A Data Manager for." 4:1 (Jan 1986):126-142.
"Kernel Code Generation, A Data Manager with." 3:9 (Sep 1985):82-101.
"Mainframe Compatibility, A Data Manager with." 3:11 (Nov 1985):124-144.
"Perspective on Data Models, A." 2:1 (Jul 1984):113-142.
"QUICKCODE: Instant Gratification." 1:9 (Jun 1984): 129-145.
"R:Bridge." Product Watch. 4:10 (Oct 1986):188-189.
"Reflex." Product Watch. 4:4 (Apr 1986):189-194.
"Self-Reliant User, A Data Manager for the." 4:10 (Oct 1986):146-165.
"Seven Utilities for dBASE II." 1:9 (Jun 1984):80-112.
"Smooth Sailing." 1:9 (Jun 1984):200-207.
"Some Technical Aspects of dBASE II." 1:9 (Jun 1984): 56-63.
"SQL on the IBM PC." 1:3 (Nov/Dec 1983):72-77.
"Synthesizes Text and Data, A Data Manager that." 4:7 (Jul 1986):142-164.
"Take III." 3:1 (Jan 1985):64-84.
"Transaction Processing, A Data Manager for." 4:3 (Mar 1986):142-158.
"Tree Structures, Part 1." 3:2 (Feb 1985):78-87.
"Tree Structures, Part 2." 3:3 (Mar 1985):131-158.
"UNIX Heritage, A Data Manager with a." 3:12 (Dec 1985):118-131.
"Visual Queries, A Data Manager with." 4:4 (Apr 1986):154-174.
"ZIM Release 2.5." Product Watch. 4:6 (Jun 1986):195.

DATA PADLOCK—Glenco Engineering, Inc.
"Encryption Software." 3:6 (Jun 1985):162-179.

"DATABASE PROGRAMS ARE COMPLEX"
Fastie, Will. Directions. 1:5 (Feb 1984):11-12.
Information-management software should be simple but effective. Three kinds of information-management software are available today: programs that can solve only simple problems; software designed to be integrated with a program under development; and full-scale systems that include an interactive query facility. A fourth class that combines the power of a full-scale system with the user friendliness of a simple file manager is being developed.
Letter References—2:1 (Jul 1984):24.

DATAEASE—Software Solutions, Inc.
"End-user Development, A Data Manager for." 4:9 (Sep 1986):146-174.

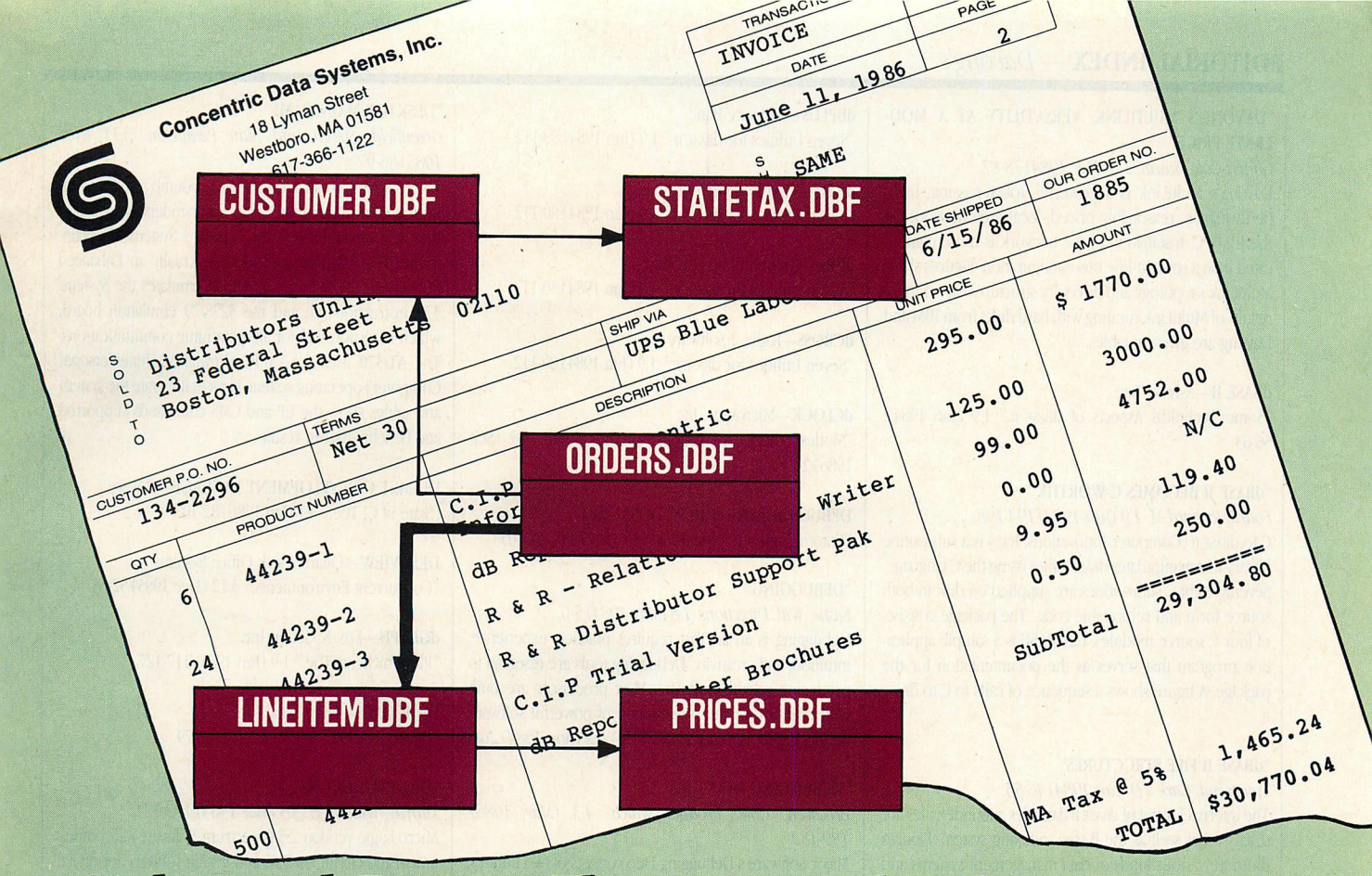
DATAFLEX—Data Access Corp.
"Diverse Environments, A Data Manager for." 3:8 (Aug 1985):52-71.

DATALIFE DISK DRIVE ANALYZER—Verbatim
"Testing 1, 2, 3, 4, 5." 3:5 (May 1985):142-152.

DATALIGHT C COMPILER—Datalight
"State of C, The." 4:1 (Jan 1986):82-108.

DATATEXT—Datatek
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

DAVIS, MICHAEL, RICHARD CHANDLER, and GARY FAULKNER
"Sixteen-color Graphics." Programming Practices. 4:8 (Aug 1986):159-171.



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CIRCLE NO. 260 ON READER SERVICE CARD

"DAVONG'S MULTILINK: VERSATILITY AT A MODERATE PRICE"
Glinert-Cole, Susan. 1:6 (Mar 1984):78-87.
Davong's MultiLink is a powerful, token-passing, high-performance, reasonably priced, local area network for the IBM PC. Installation of the network is more complicated than a straight-line bus configuration. Figures show MultiLink's topology and directory structures. Benchmark results of MultiLink running with hard disks from IBM and Davong are given in tables.

dBASE II—Ashton-Tate
"Some Technical Aspects of dBASE II." 1:9 (Jun 1984):56-63.

"dBASE II BECOMES C-WORTHY"
Foard, Richard M. 1:9 (Jun 1984):194-198.
C to dBASE II (Computer Innovations, Inc.) is a subroutine library that manipulates dBASE II files using the C language. Seventy-eight C subroutines are supplied on disk in both source form and relocatable code. The package consists of four C source modules. C2DBASE is a sample application program that serves as the documentation for the package. A figure shows a sequence of calls to C to dBASE II.

"dBASE II FILE STRUCTURES"
Townsend, Carl. 1:9 (Jun 1984):46-55.
The internal format of dBASE II data files and index files are discussed as well as the B-tree indexing system. Figures illustrate various kinds of data management systems and the B-tree indexing system. A program to recover damaged dBASE II data files is listed. A sidebar describes query operations in dBASE II using the relational algebra operations of permutation, select, join, and project.

"dBASE II HANGS ON"
Fastie, Will. Directions. 1:9 (Jun 1984):5-6.
Despite the decline of VisiCalc, both WordStar and dBASE II continue to have strong presences in the PC marketplace. dBASE II's success stems from its competent implementation, the strong aftermarket of support tools, and the number of people able to write dBASE II programs.

"dBASE II PROGRAMMING TECHNIQUES"
Lakner, Peter and Doug Sherman. 1:9 (Jun 1984):72-78.
A procedure is discussed that overcomes dBASE II's limitation of seven active indexes per file. An eighth index can be maintained as a separate .DBF file containing limited data. Tables illustrate creation of the eighth key. Listings provide programs for accessing and maintaining data in the special key file.

"dBASE II WITH AMBITION"
Olfe, Michael. 1:9 (Jun 1984):181-191.
Three screen/report generators for use with dBASE II are evaluated: SED (Ashton-Tate); MAPGEM (Lambda Associates); and EZdBASE (Automated Office Systems). Benchmark test results are given in the article. Figures show sample screens generated by each one.

dBASE III—Ashton-Tate
"Take III." 3:1 (Jan 1985):64-84.

dBASE III PLUS—Ashton-Tate
"Evolving Standard, A Data Manager with an." 4:5 (May 1986):166-188.

dBPLUS—Software Banc
"Seven Utilities for dBASE II." 1:9 (Jun 1984):80-112.

dB/RA—Gryphon Microproducts
"Seven Utilities for dBASE II." 1:9 (Jun 1984):80-112.

dBRx—Gryphon Microproducts
"Seven Utilities for dBASE II." 1:9 (Jun 1984):80-112.

dCROSS—Radix 2 Software
"Seven Utilities for dBASE II." 1:9 (Jun 1984):80-112.

dCLOCK—Microsync, Inc.
"Slotless Clock, A." Product of the Month. 4:9 (Sep 1986):29.

DEBUG (included with PC-DOS)—IBM
"Entomological Explorations." 3:1 (Jan 1985):88-105.

"DEBUGGING"
Fastie, Will. Directions. 1:8 (May 1984):5-6.
Debugging is an art that requires practice, experience, intuition, and creativity. Debugging tools are essential to producing reliable software. Most processors are built with facilities for the construction of powerful software debugging tools. *Letter References—2:2 (Aug 1984):26.*

"DEBUGGING DUO"
Brecheen, Cole. Product Watch. 4:3 (Mar 1986):180-182.
Major Software's Debugging Duo consists of two utilities, Tidy and PascalPac, designed to help with programming in Pascal. Tidy accepts any error-free Turbo Pascal source file and produces indented code with well-placed comments and capitalized reserved words. PascalPac consists of four utilities: X-REF, a source file cross referencer; X-RAY, which uses the output of X-REF to find identifiers and display them in context; X-PRINT, a program for printing text files; and X-PEEK, a version of X-RAY that does not use the output of X-REF.

"DEFINING FUNCTION KEYS USING ANSI.SYS"
Gleckler, Arthur A. Tech Notebook. 1:6 (Mar 1984):77.
An IBM Pascal program lets the user define keyboard macros for the function keys (a listing of the program is included). The program passes definition strings to ANSI.SYS, the keyboard device driver that first appeared with DOS 2.0. A device driver stands between a program and the device the program operates. These ANSI.SYS keyboard definitions do not hold under IBM BASIC.

DELOACH, ALLEN
"Custom Characters." Tech Notebook. 3:10 (Oct 1985):45.

DEMERS, RAYMOND
"Do-It-Yourself Digital-Input Port, A." 2:5 (Nov 1984):193-195.

DESHAZO, BRANDY C.
"Personal CICS." 3:12 (Dec 1985):171-178.

DESIGN BOARD PROFESSIONAL—MEGA CADD, Inc.
"Three-Dimensional Modeling." 4:2 (Feb 1986):88-103.

DESKPRO 286—Compaq
"Compaq Deskpro 286." 4:8 (Aug 1986):80-91.

"DESKTOP MAINFRAME"
Greenfield, Steven and Alan Pendleton. 3:11 (Nov 1985):86-97.
The IBM AT/370 can act as a PC/AT, a dumb terminal connected to a mainframe, or an independent workstation that is compatible with the standard System/370 mainframe. The machine described is actually an Enhanced PC/AT with the 370 option, which emulates the System/370 instruction set; and the 3278/79 emulation board, which is responsible for all mainframe communications. The AT/370 uses the VM/PC (Virtual Machine/Personal Computer) operating system. Figures illustrate the system and tables show the CP and CMS commands supported and benchmark test results.

DESMET C DEVELOPMENT PACKAGE—C Ware
"State of C, The." 4:1 (Jan 1986):82-108.

DESQVIEW—Quarterdeck Office Systems
"Concurrent Environments." 3:12 (Dec 1985):52-65.

dGRAPH—Fox & Geller, Inc.
"Plot Thickens, The." 1:9 (Jun 1984):117-127.

DIGICOM.8—Digiboard, Inc.
"Beyond COM2." 4:9 (Sep 1986):68-79.

"DIGITAL DESIGNS"
Murray, William H. 3:3 (Mar 1985):112-121.
Micro-Logic version 2.5 (Spectrum Software) is computer-assisted circuit analysis and design software for digital electronic circuits with an IBM PC. Two main modules create and simulate the circuit. Tables list the program's key commands and supported maximum design specifications. The program is menu driven with defaults for common circuit features. Figures diagram the program's design and analysis features.

DIGITAL RESEARCH C—Digital Research, Inc.
"C and the PC, Part 2." 1:4 (Jan 1984):91-140.
"State of C, The." 4:1 (Jan 1986):82-108.

"DIGITAL-TO-ANALOG, ANALOG-TO-DIGITAL"
Aitken, Peter G. 1:6 (Mar 1984):104-116.
Tecmar, Inc.'s Lab Master provides a powerful and flexible interface for the IBM PC. The board has 16 single-ended or 8 differential A/D channels, two D/A channels, five 16-bit counter/timers, and 24 digital I/O lines. The Lab Master performs very well in a lab but is not software supported and should not be considered unless the requisite programming skills are available. A photo shows the Lab Master board. The motherboard and the register access for the 9513 timer are shown in figures. A table gives port assignments for the Lab Master.

"DIGITIZING ANALOG DATA"
Miller, Eric M. 4:5 (May 1986):52-71.
Various boards made by the following companies are reviewed: Burr-Brown; Data Translation; IBM; MetraByte; Scientific Solutions, Inc.; Strawberry Tree Computers; and Western Telecomputing. An ideal data acquisition board is described. The various stages of the board—input protection circuitry, multiplexer, instrumentation amplifier, sample-and-hold amplifier, analog-to-digital converter, analog output, and parallel and timer I/O channels—are all detailed. Tables list features of the various boards, significant components used in the boards, electrical charac-

teristics, and digital-to-analog characteristics. A figure shows a block diagram of a typical data acquisition system. *Letter References—4:10 (Oct 1986):24-26.*

"DIPPING INTO DIRECTORIES"
Mirecki, Ted. 3:2 (Feb 1985):67-77.
The file allocation table (a vestige of DOS 1.1) can be used to treat subdirectories (a new feature of DOS 2.0) as files. This gives the programmer complete control over subdirectory structure. The listing PACKDIR.ASM demonstrates the concepts by eliminating wasted space in subdirectory entries. A sidebar with a listing shows how to code .COM files with multiple segments.

DIRECT.CONNECT—Direct.aid Inc.
"High-tech Mimicry." 2:3 (Sep 1984):46-55.

"DISAPPEARING CURSOR, THE"
Forgeron, Ted. Tech Notebook. 3:7 (Jul 1985):35.
Three different ways to remove the cursor from a text display are presented. Placing the cursor below the bottom of the screen or giving it nonexistent scan lines often works, but the most reliable method is to give an invalid argument to the BIOS set-cursor-type routine. Assembly language examples of the techniques are listed.

"DISARMING DOS FORMAT"
Folts, James A. Tech Notebook. 2:1 (Jul 1984):32.
If the user executes the DOS FORMAT command without specifying a drive, and the hard disk is the default drive, the entire hard disk will be reformatted. However, the FORMAT.COM program can be modified to issue an "Invalid drive parameter" error message if the user accidentally attempts to format the hard disk. If the disk really needs to be reformatted, the original, unpatched version of FORMAT can be used. *Letter References—2:3 (Sep 1984):20; 2:4 (Oct 1984):14; 2:5 (Nov 1984):21-22.*

"DISKETTE CLEANING"
Fastie, Will. Tech Notebook. 1:3 (Nov/Dec 1983):85.
Many products are available to clean the disk drive's read/write head, which accumulates deposits during use. A typical head cleaner consists of a normal diskette jacket with a fabric-based cleaning disk mounted inside instead of a mylar storage diskette. A cleaning solution is applied to the cleaning disk, and the drive motor spins the disk against the heads to remove contamination. A utility program is provided that spins the disks for a specified period of time during cleaning.

"DISKETTE COPY SERVICES"
Woram, John W. 1:6 (Mar 1984):154-163.
Disk duplication services are available that will copy and serialize computer disks, design and package individual software programs, and advise the programmer about marketing and distribution techniques. A table compares the offerings of eight disk duplication services: Allenbach Industries, Inc., Computer Media Products, DisCopy Labs, IBM, I/O Management, Wabash Data Tech, Logic General Corp., and Hoffman Computer Products.

DISKETTE/FIXED-DISK ADAPTER FOR THE AT—IBM
"Analyzing the Advanced Technology." 2:6 (Dec 1984): 40-56.

"DISPLAY CHARACTER SET CUSTOMIZATION"
Brink, Dan. 1:1 (Jul/Aug 1983):121-129, 196, 199.
A resident routine to print foreign language characters to the screen is presented. This program works only with WordStar, DOS 1.1 or earlier, and 64KB of memory or more. A translation table determines which regular characters are displayed as foreign language characters. The article also gives instructions for preparing a screen customizer. Assembly language listings shows how to modify and use the table. A figure also shows conversions from hexadecimal to decimal.

DISPLAY MANAGER—Digital Research, Inc.
"Screen Composure." 3:4 (Apr 1985):149-159.

"DISPUTING THE RIGHTS TO CUSTOM-DESIGNED SOFTWARE"
Oppenheimer, Max Stul. Legal Brief. 2:1 (Jul 1984): 185-186.
Ownership rights in custom software must be identified. The parties' rights should be listed in a contract, including: the rights to sell, resell, use, license, or sublicense the software "as is;" control over software marketing; the translation of software into other languages; and future modification of software.

"DIVERSE ENVIRONMENTS, A DATA MANAGER FOR"
Christian, Chris. 3:8 (Aug 1985):52-71.
DataFlex from Data Access Corp. combines effective multi-database managment with a fourth generation language to meet the needs of microcomputer application developers. DataFlex is compatible with most Intel-based 8- and 16-bit single- and multiuser operating systems. Files are composed of fixed-length records. An indexed sequential access method with a B-tree stucture is used for multikey indexes. A listing provides a program that allows the novice end user to create ad hoc multifile reports in DataFlex. Benchmark results are listed in a table, and a sidebar provides an overview of the package. *Letter References—3:11 (Nov 1985):20-29.*

"DIVERSIONARY BENCHMARK, A"
Glinert-Cole, Susan. 1:1 (Jul/Aug 1983):95-98, 116, 194.
Four versions of the NCR Pascal p-System are timed against the IBM BASIC compiler. The benchmark program HAT is listed in BASIC and Pascal incarnations. Assembly language optimizations of p-System commands, details of real number implementation, and 8087 usage affected the benchmark times. Tables list two- and four-word reals. *Letter References—1:3 (Nov 1985):26-28.*

"DO-IT-YOURSELF DIGITAL-INPUT PORT, A"
DeMers, Raymond. 2:5 (Nov 1984):193-195.
Figures illustrate how to adapt the IBM PC's serial port to generate an external interrupt and accept a four-bit input from switch or relay contacts. A table lists the four bits and their related pins. A BASIC program is listed to test the port's operation. External controllers may be used to input information into the computer via this port.

"DOCUMENTATION THAT WORKS"
Covington, Michael A. 3:1 (Jan 1985):165-172.
Since software becomes usable only through its documentation, the documentation must be well written. A writer should know who the users are and address them at their level of proficiency. Suggestions are made for organization, clarity, and readability, as well as for dealing with printers and typesetters. *Letter References—3:5 (May 1985):18-20.*

DOS 3.0—IBM
"Irresistible DOS 3.0." 2:6 (Dec 1984):74-87.

"DOS COMMAND IBM FORGOT, THE"
Ritari, Douglas. 2:3 (Sep 1984):79-89.
EPSON.COM is an assembly language program that initalizes Epson MX-family printers to parameters selected by the user. Virtually all Epson parameters can be specified. Although designed for use with Epson printers, the program can be used to send command codes to any printer via a hexadecimal input mode. This mode allows a user to set up an arbitrary command sequence by entering hexadecimal numbers directly. A table shows segments, groups, and symbols used. *Letter References—2:5 (Nov 1984):14-20; 2:6 (Dec 1984):29-30.*

DOS COMMANDER—Connecticut Software Systems
"DOS Shells Continued." 2:4 (Oct 1984):36-48.

DOS EASE—Software Solutions, Inc.
"DOS Shells Continued." 2:4 (Oct 1984):36-48.

DOS SHELL—XTC Handcrafted Software
"DOS Shells Continued." 2:4 (Oct 1984):36-48.

"DOS SHELLS CONTINUED"
Gleckler, Arthur A. 2:4 (Oct 1984):36-48.
Various shell programs are available to make DOS easier to use. Each provides its own syntax and method of operation. Three DOS shells are compared and reviewed in this article: DOS Commander (Applitek), DOS Ease (Software Solutions, Inc.), and DOS Shell (XTC Handcrafted Software). DOS Commander and DOS Ease are designed for use on all PC Systems; DOS Shell requires a hard disk. Tables summarize features of the three products and function key assignments for a DOS shell. A figure shows a diagram of a DOS shell subdirectory map.

DOUBLEDOS—Soft Logic Solutions, Inc.
"Concurrent Environments." 3:12 (Dec 1985):52-65.

"DOUBLY CAREFUL"
Hultquist, Paul F. Tech Notebook. 3:11 (Nov 1985):56.
BASIC programmers must be especially careful when working with double-precision quantities, or they will produce only single-precision results. Listings show subtle programming errors that can cause calculations to lose precision, plus ways to avoid them.

DR FORTRAN-77—Digital Research, Inc.
"FORTRAN Options." 3:10 (Oct 1985):149-169.

"DRAFTING BY DESIGN"
Wright, Victor E. 4:1 (Jan 1986):50-65.
Autodesk, Inc.'s AutoCAD 2.1 incorporates many features found in larger computer-aided drawing (CAD) systems. It will run on several 16-bit microcomputers. AutoCAD is available in three configurations, ranging from a basic drawing program to one that includes two Advanced Drafting Extensions overlays. The full package is composed of a drawing editor, a plot program, and several utilities. The article describes program operation, drawing size, display control, layered drawings, nongraphic object attributes, special features, design extensions, plotting, communication, and performance. Photos demonstrate AutoCAD's capability. A figure outlines a piping menu.

"DRAWING AND ANALYZING CIRCUITS WITH MICRO-CAP"
Murray, William H. 1:6 (Mar 1984):88-102.
Micro-Cap (Microcomputer Circuit Analysis Program,

Spectrum Software) is an analog design program for electrical engineering work. The user can analyze a drawn circuit on the screen using any of three techniques. Analysis types are DC, AC, or transient. The results of an analysis can be typed as a data table or can be presented as a graph. The major limitation of this program is the limited number of components offered and the size of the circuit that can be viewed. Figures show screen displays of circuits and their analyses. Tables list components supplied by Micro-Cap and parameter values.

"DRAWING CIRCUITS"
Murray, William H. 3:5 (May 1985):113-118.
SMARTWORK (Wintek Corp.) is a computer-aided design (CAD) tool for designing printed circuit boards. The use of the program is illustrated with figures that follow step-by-step the stages in the design of a game adapter board. The designer can trace the path through a circuit by using a function key and the cursor. With an RGB monitor, the user can switch between viewing single-and dual-layer designs. A table of SMARTWORK commands is included.

"DRAWING TOWARD MONOCHROME"
Aitken, Peter G. 4:1 (Jan 1986):70-77.
The following five graphics cards, capable of displaying 640-by-200 or 320-by-200 resolution IBM Color Graphics Adapter (CGA) graphics on an IBM monochrome monitor, are reviewed: the Everex Graphics Edge, Genoa Spectrum, Paradise Modular Graphics Card, STB Chauffeur, and Tseng UltraPAK. Each is nearly 100-percent compatible with the CGA and resembles the monochrome adapter when in text mode. A sidebar covers the Everex Edge monochrome/color graphics adapter.

DRI LEVEL II COBOL—Digital Research, Inc.
"COBOL Performs, Part 2." 3:7 (Jul 1985):111-133.

"DROP-IN MODULES FOR C, PART 1"
Hunt, William J. 3:6 (Jun 1985):100-127.
This first of three articles reviews general-purpose libraries for the C programming language. The following libraries are reviewed: Building Blocks I (Software Horizons), C-Food Smorgasbord (Lifeboat Associates), C TOOLS (XOR Corp.), C Tools and C Tools 2 (Blaise Computing), C Utilities (Software Labs), C Utility Library (Essential Software), and Greenleaf Functions (Greenleaf Software). Most provide BIOS-level machine interface for C programs. *Letter References—3:10 (Oct 1985):16-20.*

"DROP-IN MODULES FOR C, PART 2"
Hunt, William J. 3:7 (Jul 1985):135-146.
Windowing packages for the C language were tested: Building Blocks II (Software Horizons), C-lib (Vance Info Systems), CRIOS (LRM Systems), VSI-The Window Machine (Amber Systems), and Windows for C (Creative Solutions). Windows for C provides good general window support but does not support incremental updating. C-lib does not resolve overlapping window collisions but has extensive support for full-window and incremental updating. Building Blocks II provides many functions but little or no explanation. The Window Machine provides elaborate overlapping windows support with satisfactory performance but the manual is of little help. CRIOS implements only basic windowing. Tables summarize product features, ratings, and benchmark results.

"DROP-IN MODULES FOR C, PART 3"
Hunt, William J. 3:8 (Aug 1985):141-159.
This last of three articles evaluating C library products features three libraries devoted to IBM PC asynchronous communications support: Async Manager (Blaise Computing), Communications Library version 1.2 (Greenleaf Software), and Power Pack 3 (Software Horizons). Product features and benchmark test results are summarized in tables. Listings show sample programs.

DSBACKUP—Design Software, Inc.
"Backup Utility Performance." 4:3 (Mar 1986):78-83.

"DSD87"
Mitchell, Stanley. Product Watch. 4:10 (Oct 1986): 183-185.
Though functional for complex tracing tasks, the powerful symbolic debugger DSD87 is too clumsy for general use. Seven kinds of windows show registers, stack, 8087, and memory with source code symbols. The DSD87 macro language allows parameter passing, looping, and subroutine calling. Available in macros are keyboard scan codes, source code line executing, next breakpoint location, executing opcode, and address of next instruction. A table compares DSD87 to the standard for a symbolic debugger, Microsofts' SYMDEB.

DT2801-A—Data Translation
"Digitizing Analog Data." 4:5 (May 1986):52-71.

DUMP/RESTORE—Cogitate, Inc.
"Backup Utility Performance." 4:3 (Mar 1986):78-83.

DUNCAN, RAY
"Graphics on the IBM Monochrome Display." 1:6 (Mar 1984):142-153.
"Two New Ways to Drive the Bugs Away." 1:8 (May 1984):110-128.

DUNFORD, CHRIS
"Interrupts and the IBM PC, Part 1." 1:3 (Nov/Dec 1983):173-199.
"Interrupts and the IBM PC, Part 2." 1:4 (Jan 1984): 144-186.
"RASMatazz without the Jazz." 2:2 (Aug 1984):120-150.

DUNTEMANN, JEFF
"And the Winners Are." Product of the Month. 3:6 (Jun 1985):23.
"Approaching the Optimum Pascal." 4:7 (Jul 1986): 94-133.
"Asynchronous X.25." Product of the Month. 3:11 (Nov 1985):39.
"Audio Debugging." Tech Notebook. 3:1 (Jan 1985):177.
"Avoiding "Redo from Start" Problems." Tech Notebook. 1:9 (Jun 1984):178.
"BASICA Screens to Turbo." Tech Notebook. 3:2 (Feb 1985):50.
"Courier 2400." Product of the Month. 3:5 (May 1985):25.
"Creating Bounce Bar Menus." 1:7 (Apr 1984):75.
"EGA Paint." Product of the Month. 4:10 (Oct 1986):31.
"Hardcard, The." Product of the Month. 4:2 (Feb 1986):31.
"Language Integration." Product of the Month. 4:7 (Jul 1986):29.
"METAWINDOW." Product of the Month. 3:7 (Jul 1985):23.
"Microsoft Mouse." Product Watch. 4:3 (Mar 1986):186.
"Prototypes in Motion." Product of the Month. 4:3 (Mar 1986):29.
"Sleek Backup." Product of the Month. 3:10 (Oct 1985):31.
"Slotless Clock, A." Product of the Month. 4:9 (Sep 1986):29.
"Softstrip System, The." Product of the Month. 4:5 (May 1986):29.
"Structured Debugging." Product of the Month. 4:1 (Jan 1986):29.
"Successfully Seeking Interrupts." Product of the Month. 3:12 (Dec 1985):29.
"Tale of Two Mice, A." 1:7 (Apr 1984):150-172.
"Talking to a Mouse from Turbo Pascal." Tech Notebook. 2:4 (Oct 1984):63.
"Tools for the Pascal Programmer." 3:2 (Feb 1985): 102-111.
"Untyped VAR Parameters." Tech Notebook. 3:8 (Aug 1985):43.
"VEGA Board, The." Product of the Month. 4:4 (Apr 1986):33.
"Visible Computer: 8088." Product of the Month. 3:9 (Sep 1985):25.
"Watson System, The." Product Of The Month. 3:8 (Aug 1985):29.

DUNTEMANN, JEFF and MICHAEL BENTLEY
"Pascal Times Four." 2:1 (Jul 1984):58-72.

dUTIL—Fox & Geller, Inc.
"Seven Utilities for dBASE II." 1:9 (Jun 1984):80-112.

"DYNAMIC MEMORY MANAGEMENT"
Bensky, Sy. Programming Practices. 4:10 (Oct 1986): 173-181.
Memory for data or input/output buffers is usually reserved within a program when it is compiled and linked. Memory can be allocated dynamically outside the program's segment at runtime using DOS memory management functions. Three assembly language programs illustrate the use of DOS memory management functions. The programs are listed along with figures that show how programs are loaded into memory.

E

EASY EDIT—Morell Data Systems
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

EASYPATH—Polygon Software Corp.
"File-search Help for PC-DOS." 3:4 (Apr 1985):138-145.

ECO-C88—Ecosoft, Inc.
"State of C, The." 4:1 (Jan 1986):82-108.

E/dBASE I—Micro Business Systems
"Seven Utilities for dBASE II." 1:9 (Jun 1984):80-112.

EDIT—McClain Software
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

EDITSMITH—Symmetric Software
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

"EDITORIAL VOICES"
Fastie, Will. Directions. 3:11 (Nov 1985):9-10.
The editor of *PC Tech Journal* introduces the magazine's editorial staff to the readers.

EDIX—Emerging Technology Consultants, Inc.
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

EDWARDS, CHARLES C.
"INLINE Interrupts." Programming Practices. 3:12 (Dec 1985):181-187.

EGA MASTER—Tecmar
"EGA Spectrum, The, Part 1." 4:10 (Oct 1986):80-86.

EGA PAINT—RIX SoftWorks, Inc.
"Elegant Iconoclasm." Product of the Month. 4:10 (Oct 1986):31.

EGA PLUS—STB Systems, Inc.
"EGA Spectrum, The, Part 1." 4:10 (Oct 1986):80-86.

"EGA SPECTRUM, THE, PART 1"
Cockerham, John T. 4:10 (Oct 1986):80-86.
IBM's original Enhanced Graphics Adapter (EGA) and seven EGA-compatible boards are reviewed. The compatible boards incorporate the Chips & Technologies EGA chip set without IBM Color Graphics Adapter (CGA) emulation. Vendors reviewed include AST, PCs Limited, Genoa, STB, Tecmar, American Mitac, and Basic Time. A custom program was written for this article to test the more arcane features of the EGA at performance limits; all boards except IBM's original EGA passed all portions of the test. Assuming full CGA emulation is not required, all boards performed well.

"EGA STANDARD, THE"
Cockerham, John T. 4:10 (Oct 1986):48-79.
The architecture of the IBM Enhanced Graphics Adapter (EGA) is reviewed. IBM's documentation for the EGA has been minimal at best. As a result, many features of the board have not been understood. Several little-known features, such as soft text fonts and graphics blinking, are explained. Compatibility issues are discussed, focusing on the Chips & Technologies EGA chip set. An EGA testing program is presented that benchmarks EGA performance and compatibility and provides a code model for the use of most EGA-specific functions.

EGADS!—PCs Limited
"EGA Spectrum, The, Part 1." 4:10 (Oct 1986):80-86.

"8088 vs V20"
Jimenez, Juan and Steve King. 4:4 (Apr 1986):73-79.
The performance of NEC's V20/30 is compared to Intel's 8088/86. The additional instructions available on the V20/30 are described. Tables show the V20/30 versus 8088/86 register nomenclature, the V20/30 status word nomenclature, mappings, and benchmark performances. Two sidebars are concerned with the future of the V family and the compatibility and performance of the V20. Two Pascal listings show the benchmark tests. *Letter References—4:7 (Jul 1986):24.*

8088/8087—Intel Corp.
"8087 Performance Considerations." 1:2 (Sep/Oct 1983):30-47.

"8087 PERFORMANCE CONSIDERATIONS"
Sarnak, Neil and Eric Jaffe. 1:2 (Sep/Oct 1983):30-47.
The 8087 numeric data processor may be used in an IBM PC as a companion to the 8088 chip. The 8087 is able to perform arithmetic and transcendental mathematical operations on 18-digit integers and real numbers. The 8087 instruction set contains more sophisticated constants than the 8088's. A table lists speed of calculation using 8087 chips for various Pascal and BASIC programs. A photo shows the 8087 chip. A directory lists various suppliers of 8087 chips and related software.

87 DEBUG—Microway, Inc.
"Entomological Explorations." 3:1 (Jan 1985):88-105.

"ELECTRONIC MESSAGING"
Hansen, Augie. 3:2 (Feb 1985):141-149.
HOSTCOMM, HOST PCE-Mail, and HOST Conferencing System and Utilities III (Janadon Inc./WBS and Associates Inc.) are a set of software packages for bulletin boards or information services. Tables list public access HOSTCOMM Systems and Hayes Smartmodem switch settings. Photos show screen displays of user menus. Custom programs that may be added to HOSTCOMM with the programming shell feature are listed.

"ELEGANT ICONOCLASM"
Duntemann, Jeff. Product of the Month. 4:10 (Oct 1986):31.
EGA Paint from RIX SoftWorks, Inc. does not offer icons or obtrusive menus in an elegant paint program. EGA Paint works only on the IBM EGA or compatibles. It offers a low-profile command structure with removable pop-up menus using a mouse. Other features include pixel zoom features, text manipulation, and color adjustment.

"ELUSIVE ACQUISITION"
Miller, Eric M. Tech Notebook. 4:3 (Mar 1986):46.
A signal preconditioning circuit is described that can measure AC amplitude at high frequencies, outside the specified range of a data acquisition board. The circuit determines the RMS value of the AC waveform and converts it to a DC voltage that can be handled by the analog input channel on the data acquisition board. A figure illustrates the circuit.

EMERALD SERIES 4000/1 PS70—Emerald Systems
"Breaking the 32MB Barrier." 4:5 (May 1986):94-108.

"EMULATING THE 3278"
Addelson, Roger. 4:2 (Feb 1986):48-63.
The IBM 3278/79 is a high-speed intelligent terminal with full-screen capability, usually connected to a mainframe over high-speed binary synchronous lines. The article describes the functions of a 3278/79 emulation board and reviews eight coaxially connected 3278/79 emulation hardware software packages: Attachmate 3-N-1 COAX Adapter (Attachmate Corp.); FORTE PJ (Forte Data Systems); 3278/79 Emulation Adapter (IBM); IDEAcomm (IDEAssociates); IRMA 3270 board (Digital Communications Associates); LINKUP System Coax (Information Technologies); PCOX/PLUS (CXI); and Persyst/Emulex COAX/3270 (Emulex Corp.). A table compares the features of each product. *Letter References—4:9 (Sep 1986):17.*

ENCORE 1200B—Omnitel
"Communicating from Within." 3:9 (Sep 1985):60-77.

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"ENCRYPTION METHODS, PART 1"
Mansfield, Victor. 3:4 (Apr 1985):96-114.
A general ciphertext method is presented that explains frequency lists, Vigenere substitution alphabets, and columnar transpositions. Figures, tables, and photos illustrate encoding methods—from ancient to modern—along with active and passive code-breaking schemes. Listed Turbo Pascal programs perform simple substitution and transposition encryption on files. *Letter References—3:8 (Aug 1985):16.*

"ENCRYPTION METHODS, PART 2"
Mansfield, Victor. 3:5 (May 1985):157-167.
Two widely used encryption algorithms are discussed in general terms. They are the public key algorithm of Rivest/Shamir/Adleman (RSA) and the federal government's data encryption standard (DES). Tables and a flowchart explain RSA. The topic of secure digital signatures is included. The exact workings of DES are secret, but an illustrated discussion of permutation boxes and substitution boxes explains what is known about DES.

"ENCRYPTION SOFTWARE"
Mansfield, Victor. 3:6 (Jun 1985):162-179.
Private key encryption systems rely on the secrecy of a key specifying the character substitutions and transpositions that accomplish the encryption. Public key systems have two keys: a public key that anyone can use to encrypt a message to the encryption key owner, and a private decryption key known only to its owner for decrypting messages encrypted with the public key. The private key systems reviewed are Data Encoder (IBM); Data Padlock (Glenco Engineeering); P/C Privacy (MCTel); Super Encrypter II (Obsidian Computer Systems), and SuperKey (Borland). The public key systems reviewed are Crypt Master (Digital Signature) and PhasorCode 1000 (International Phasor Telecom).

"END-USER DEVELOPMENT, A DATA MANAGER FOR"
Browning, Dave. 4:9 (Sep 1986):146-174.
DataEase from Software Solutions, Inc. is a menu- and form-driven, single-user data management system based on the entity-relationship model. The product uses a structured procedural language, yet it is optimized for the end user. DataEase is distinguished by its use of forms, which are the visual representation of data. Two report facilities are provided, including a data query and a reporting language. Benchmark results are listed in a table, and a sidebar provides an overview of the package. Figures show a form definition and a sample query.

"ENHANCED STANDARD, THE"
Fastie, Will. Directions. 4:10 (Oct 1986):13-14.
The editor considers the IBM Enhanced Graphics Adapter (EGA) as an industry standard. He takes into account the history of the EGA and its compatibles and looks toward the future of the EGA. In a sidebar, he criticizes IBM for its handling of the PC Convertible.

"ENHANCEMENT BY JRAM-2"
Awalt, Don. 3:3 (Mar 1985):92-99.
JRAM-2 (Tall Tree Systems) is a memory and multifunction board that uses memory by sharing address space. The JRAM technology uses software to map 64KB of memory to be used as PC memory. Sixteen "pages" of 64KB memory are possible. Software for a RAM disk, spooling, and archiving files is sold separately as are hardware options for a clock and parallel and serial ports. A table lists options and prices. Tables compare performance and features of the JRAM software and PC-DOS utility progams. A photo shows the board. *Letter References—3:6 (Jun 1985):18-19; 3:7 (Jul 1985):15.*

"ENSURING DATA INTEGRITY"
Daetwyler, Dan. Tech Notebook. 4:3 (Mar 1986):44.
A technique involving dual file handles is presented that protects against data loss even if a power surge occurs when a file is left open. A single file is accessed with two file handles. One handle is used to close the file and write the records, the file allocation table, and the directory safely to disk; the other handle maintains the file control block in memory at the same time, allowing the user to perform read or write operations.

"ENTITY-RELATIONSHIPS, A DATA MANAGER USING"
Foard, Richard M. 3:10 (Oct 1985):96-126.
ZIM from Zanthe Information, Inc. is an application development system written around a database management system. The package uses an entity-relationship database model. ZIM includes a full programming language that can invoke all of its data management, forms management, and report generating facilities. An integrated, comprehensive forms facility also is included. Benchmark results are listed in a table, and a sidebar provides an overview of ZIM. Listings show portions of the code used to implement the sample application. Figures show the entity-relationship and relational database models and the ZIM data dictionary.

"ENTOMOLOGICAL EXPLORATIONS"
Armbrust, Steven and Ted Forgeron. 3:1 (Jan 1985): 88-105.
Nineteen program debuggers are reviewed: BUGSCREEN (RDT Software); CodeSmith-86 (Visual Age); DEBUG (IBM); 87DEBUG (MicroWay, Inc.); GeneScope (Genesis Microsystems); ICE-88 (Intel); Mylstar Symbolic Debugging Program (Mylstar Electronics, Inc.); PC-Test (A.J.M. Associates); PDT-PC (Answer Software); Periscope (Data Base Decisions); Pfix86 and PfixPlus (Phoenix Computer Products); Soft-Scope (Concurrent Sciences); Software Probe, Software Source Probe, PC Probe, and Source Probe (Atron); SYMD (D+V Systems); and Trace86 (Morgan Computing Company, Inc.). *Letter References—3:5 (May 1985):16.*

"ENVIRONMENTAL ENGINEERING"
Fastie, Will. Directions. 3:3 (Mar 1985):9-10.
Several operating environments are available from IBM, including: PC-DOS, TopView, the 3270-PC window environment, and PC-Network. IBM is expected to settle on TopView. If IBM expects to promote TopView as a standard, consistent environment, it must improve TopView's performance. Readers are invited to submit their comments on *PC Tech Journal*, their observations on the market, and their experiences with IBM PCs.

"ENVIRONMENTAL EXCAVATIONS"
Stam, Robert B. 3:2 (Feb 1985):90-98.
IBM Pascal routines give access to the DOS 2.0 environment string, a system storage area where the user can store defaults for the printer or directory. IBM Pascal pointers and string types are discussed in the explanation of the routines. A figure shows the format of the environment string, and the listings provide an access procedure in the form of an easily integrated Pascal UNIT.

EPSON MX-80 III—Epson America Inc.
"Epson Technical Comparison." 1:2 (Sep/Oct 1983): 130-134.

"EPSON TECHNICAL COMPARISON"
Gleckler, Arthur A. 1:2 (Sep/Oct 1983):130-134.
Although the Epson FX-80, RX-80, MX-80, and the IBM Graphics Printer are all manufactured by Epson, they are not completely compatible with respect to control codes. Tables compare the features and commands of the four printers. Suggestions for maintaining program compatibility with all four printers are provided. *Letter References—1:4 (Jan 1984):16.*

"EPSON'S NEW RX-80 AND FX-80"
Gleckler, Arthur A. 1:2 (Sep/Oct 1983):125-128.
The Epson RX-80 and FX-80 are PC-compatible dot matrix printers. The RX-80 prints at 80 characters per second (cps) and the FX-80 at 160 cps. Both have a high-density 1,920-dot graphics mode that operates more quickly on the FX-80 because of its nine-pin printhead. The most significant feature of the FX-80 is its ability to download character sets and to operate in a proportional print mode. Photos show the Epson RX, FX, and older MX-80 printers. Whereas the RX-80 is essentially nothing more than a fast version of the MX-80 III, the FX-80 is a distinct advance in Epson printer technology.

"EQUATION SOLVING BY FORMULA/ONE"
Wright, Victor E. 4:6 (Jun 1986):110-125.
A spreadsheet for engineers, Formula/One from Alloy Computer Products, Inc. is a simultaneous equation solver with extra functions for scientific and economic calculations. A photo of a sample screen shows that memory is organized in sheets, with equations, variables, units, and graphics each located on a different sheet. Figures show the step-by-step problem solving process, and a table lists special functions. A sidebar considers the similar equation solving capabilities of TK!Solver.

ERA 2—Microcom, Inc.
"Communicating from Within." 3:9 (Sep 1985):60-77.

ETHERLINK—3COM Corp.
"EtherSeries." 1:3 (Nov/Dec 1983):86-106.
"Two Views of the LANscape." 1:4 (Jan 1984):54-65.

ETHERMAIL—3COM Corp.
"EtherSeries." 1:3 (Nov/Dec 1983):86-106.
"Two Views of the LANscape." 1:4 (Jan 1984):54-65.

ETHERNET—3COM Corp.
"EtherSeries." 1:3 (Nov/Dec 1983):86-106.
"Sharing Files." 2:5 (Nov 1984):99-115.

ETHERPRINT—3COM Corp.
"EtherSeries." 1:3 (Nov/Dec 1983):86-106.
"Two Views of the LANscape." 1:4 (Jan 1984):54-65.

"ETHERSERIES"
Churchill, Bruce W. 1:3 (Nov/Dec 1983):86-106.
EtherSeries is a local area network (LAN) from 3COM for use with IBM PCs. It is a baseband-modulated, distributed-bus-topology network. Hardware consists of coaxial cable, EtherLink adapter cards, and EtherShare network servers. Software is managed by the EtherShare adminis-

trative program. Password protection is documented. Figures illustrate protocol models and hardware configurations. Tables list network capacities and costs.

ETHERSHARE—3COM Corp.
"EtherSeries." 1:3 (Nov/Dec 1983):86-106.
"Two Views of the LANscape." 1:4 (Jan 1984):54-65.

"EVALUATING DATA MANAGERS AS DEVELOPMENT TOOLS"
Anderson, Julie A. 3:8 (Aug 1985):46-51.
A series of articles that reviews and evaluates data management software packages for the IBM PC begins with this article. Each review is to be written according to a standard format that considers the database model used and the data types supported, internal programming features, file and screen generation utilities, data protection and security facilities, and date import/export capabilities. For packages that are PC versions of mainframe products, compatibility and interchangeability of data formats and program code are evaluated. As part of the review process, the editorial inventory system described in the sidebar accompanying this article will be implemented and tested. Tables show sample files. *Letter References—3:11 (Nov 1985):20-29.*

"EVOLUTION OF THE iAPX 286, THE"
Greene, Bob. 2:6 (Dec 1984):118-136.
Intel's iAPX 286 has two modes of operation, Real Address Mode and Protected Virtual Address Mode, and is the most powerful microprocessor to date in the iAPX family. The 80286 is designed for multitasking capabilities and high-performance systems. An evaluation of the 80286 is presented, beginning with a history of the modern day microprocessors. Design of the iAPX 286 concentrates on performance, virtual memory support, and multitasking support including protection. Enhancements, such as functional partitioning, segmentation, pipelining, and memory management, are examined. A compatibility guide is given for programmers writing code to run on the iAPX line of microprocessors.

"EVOLVING STANDARD, A DATA MANAGER WITH AN"
Dave Browning. 4:5 (May 1986):166-188.
dBASE III PLUS from Ashton-Tate improves on the dBASE product line by adding local area network support, more features for developers, and a new interface for end users. It is a relational database manager; linkages can be established between data files in 10 different work areas. The command language includes the features of a general purpose structured language with additional commands for the manipulation of data files. Benchmark results are listed in a table, and a sidebar provides an overview of the package. A listing provides the sample application program to print labels. Figures show interfile relationships and the interactive query process. *Letter References—4:9 (Sep 1986):24; 4:9 (Sep 1986):10.*

"EXCEEDING THE SPEED LIMIT"
Puckett, Thomas. 3:6 (Jun 1985):87-97.
The reviewed accelerator boards add hardware to the computer to make the CPU run faster. Kamerman Labs' Superflight board replaces the PC's 8088 with an 8086 chip. Orchid Technology's PCturbo-186 supplements the 8088 with an 80186. The speed of I/O-bound tasks will not be appreciably increased by these boards, but in areas where raw computational speed is important, these boards can reap dramatic performance improvements. The article details the Superflight and PCturbo-186 boards, analyzing their performance compared to a standard IBM PC and PC/AT. A figure illustrates the organization of a PC, showing how an accelerator board can increase the PC's speed. Tables show the features and test results. *Letter References—3:10 (Oct 1985):23.*

EXCEL—Everex Systems, Inc.
"Moving up to Tape." 3:11 (Nov 1985):62-83.

"EXPANDABLE MEMORY"
Mirecki, Ted. 4:2 (Feb 1986):66-83.
The Lotus/Intel/Microsoft Expanded Memory Specification (LIM EMS) provides a standard bank-switching approach for developers to follow in creating software for PCs with expanded memory. This article tests AST's RAMpage! and Intel's Above Board, and gives a complete description of the EMS standard and implementation. The differences between the LIM EMS and enhanced EMS put out by AST Research, Quadram, and Ashton-Tate are shown in figures. Although the enhanced specification is a superset of the LIM EMS, the support of Microsoft indicates that the LIM EMS version will be the most accepted at present. A sidebar considers the I/O address space.

"EXPERIMENT IN SOFTWARE MARKETING: FREEWARE, AN"
Foard, Richard M. 1:2 (Sep/Oct 1983):158-161.
Andrew Fluegelman's marketing plan for PC-TALK is reviewed. The plan allows users to try the product before sending in a voluntary contribution. The "freeware" philosophy is based on the assumption that most people are willing to pay for quality in a software product if it is offered for a reasonable price.

"EXPORTING TECHNOLOGY"
Oppenheimer, Max Stul. Legal Brief. 3:6 (Jun 1985):191-192.
Because of complex regulations from the U.S. Commerce Department, the export of technical data to foreign countries is not for amateurs. The regulations were established for reasons of national security, the furtherance of U.S. foreign policy, and the protection of the domestic economy. The degree of control exercised over exports depends on the type of commodity and the destination country. The regulations are extremely complex, and should not be negotiated without legal help.

EXPRESS 72F-1—Express Systems, Inc.
"Breaking the 32MB Barrier." 4:5 (May 1986):94-108.

EZDBASE—Automated Office Systems
"dBASE II with Ambition." 1:9 (Jun 1984):181-191.
E-Z-DOS-IT—Hammer Computer Systems, Inc.
"Concurrent Environments." 3:12 (Dec 1985):52-65.

F

F77L—Lahey Computer Systems, Inc.
"FORTRAN Options." 3:10 (Oct 1985):149-169.

FASTBACK—Fifth Generation Systems
"Backup Utility Performance." 4:3 (Mar 1986):78-83.
"Sleek Backup." Product of the Month. 3:10 (Oct 1985):31.

FASTBASE—Fourcolor Data Systems, Inc.
"Smooth Sailing." 1:9 (Jun 1984):200-207.

FASTIE, WILL
"Adventures in COMDEXland." Directions. 3:1 (Jan 1985):5-6.
"AT vs RT." Directions. 4:4 (Apr 1986):7-8.
"ATtention to Detail." Directions. 2:6 (Dec 1984):5-6.
"Automatic PCs." Directions. 4:3 (Mar 1986):11-12.
"Automatic Screen Dumps from BASIC." Tech Notebook. 1:1 (Jul/Aug 1983):147.
"Bigger, Smaller, Faster, Slower." Directions. 4:6 (Jun 1986):11-12.
"Borland Magic." Directions. 3:6 (Jun 1985):9-10.
"Compatibility Trap, The." Directions. 3:2 (Feb 1985):9-10.
"Configurations and Pricing in the IBM Family." 2:6 (Dec 1984):58-70.
"Data Interchange." Directions. 3:10 (Oct 1985):9-10.
"Database Programs are Complex." Directions. 1:5 (Feb 1984):11-12.
"dBASE II Hangs On." Directions. 1:9 (Jun 1984):5-6.
"Debugging." Directions. 1:8 (May 1984):5-6.
"Diskette Cleaning." Tech Notebook. 1:3 (Nov/Dec 1983):85.
"Editorial Voices." Directions. 3:11 (Nov 1985):9-10.
"Enhanced Standard, The." Directions. 4:10 (Oct 1986):13-14.
"Environmental Engineering." Directions. 3:3 (Mar 1985):9-10.
"Graphics." Directions. 2:4 (Oct 1984):5-6.
"Graphics (Again)." Directions. 3:7 (Jul 1985):9.
"Hard (or is it Fixed?) Disk Revolution, The." Directions. 2:5 (Nov 1984):5-6.
"Help!" Directions. 2:1 (Jul 1984):5-6.
"Impressions from COMDEX." Directions. 4:2 (Feb 1986):11-12.
"Jensen JTK-16 Electronic Tool Kit, The." 1:6 (Mar 1984):166-173.
"LAN of IBM, The." Directions. 4:1 (Jan 1986):9-10.
"Livin' In the D.O.S." Directions. 3:12 (Dec 1985):9-10.
"Long Live the 286." Directions. 4:8 (Aug 1986):9-10.
"Mainframe Strategy." Directions. 3:5 (May 1985):9-10.
"Mice Are Nice." Directions. 2:2 (Aug 1984):5-6.
"Microsoft Re-emerges." Directions. 3:4 (Apr 1985):9-10.
"Objects and Attributes." Directions. 4:7 (Jul 1986):9-10.
"On the Matter of Performance." Directions. 1:2 (Sep/Oct 1983):10-15.
"Onward, FORTH." Directions. 4:9 (Sep 1986):9-10.
"PC/IX." Directions. 1:7 (Apr 1984):11-16.
"PC*jr*." Directions. 1:4 (Jan 1984):10-11.
"PC-TALK: Communications Control." 1:2 (Sep/Oct 1983):162-166.
"Portable II, The." Product of the Month. 4:6 (Jun 1986):31.
"Printer Standards." Directions. 2:3 (Sep 1984):5-6.
"Problem of Computer Semantics, The." Directions. 1:3 (Nov/Dec 1983):10-12.
"Programmer Productivity." Directions. 4:5 (May 1986):11-12.
"Setting the AT's Clock." Tech Notebook. 2:6 (Dec 1984):57.
"Sim8051." Product of the Month. 3:4 (Apr 1985):25.
"Software Protection." Directions. 1:6 (Mar 1984):11-16.
"To Support or Not to Support." Directions. 3:8 (Aug 1985):9-10.
"Tracing a Bug in the 8088." Tech Notebook. 1:2 (Sep/Oct 1983):106.

"Visual Queries, A Data Manager with." 4:4 (Apr 1986):154-174.
"User's Rights." Directions. 3:9 (Sep 1985):9-10.
"What Hath Z-D Wrought?" Directions. 1:1 (Jul/Aug 1983):5,10,14,180.
"What IBM Did Right/Wrong." 1:1 (Jul/Aug 1983):50-56, 169-172.
"Where Am I?" Tech Notebook. 1:2 (Sep/Oct 1983):197.

FAULKNER, GARY and RICHARD CHANDLER
"Painter's Algorithm, The." 3:11 (Nov 1985):181-187.
"Virtual Graphics Screen, A." 4:9 (Sep 1986):134-143.

FAULKNER, GARY, MICHAEL DAVIS, and RICHARD CHANDLER
"Sixteen-color Graphics." Programming Practices. 4:8 (Aug 1986):159-171.

"FEDERAL ENCOURAGEMENT"
Oppenheimer, Max Stul. Legal Brief. 4:1 (Jan 1986): 189-192.
The Congressional Budget Office (CBO) has issued a report entitled "Federal Financial Support for High Technology Industries." The report analyzes what federal encouragement exists for high-tech companies to do more research and development. Federal support can take many forms: direct spending, tax benefits, favorable regulatory environment, tariffs, and government-sanctioned monopolies.

"FIELDING WITH BASIC"
Volkstorf, J. Edward Jr. Tech Notebook. 3:6 (Jun 1985):42.
Two clever uses of the BASIC FIELD statement are given in program listings. Multiple FIELD statements allow a single record's data to be interpreted in several not-so-obvious ways. A modification of the technique allows creation of binary records in a random access file.

"FIELDS, ITEMS, and SYSTEMS"
Naddor, Eliezer. 2:5 (Nov 1984):117-131.
INFORM is an information storage and retrieval system written by the author in BASIC. The organization of the INFORM system is explained, including the field types and validation criteria supported. Date and alphanumeric fields are stored in a packed format to conserve disk space. Tables describe items and fields. Program listings illustrate packing and unpacking these field types.

"58 EASY PIECES"
Gleckler, Arthur A. 1:5 (Feb 1984):180-183.
Peeks 'n Pokes for the IBM PC is a collection of programs and techniques for assembly language, BASIC, and Pascal programmers. Twenty-two programs that can be executed from a main menu program are provided. One of the programs (DOS) allows the menu-driven execution of 35 DOS/BIOS function call programs. A table lists the contents of Peeks 'n Pokes. Figures show the program's main menu and the DOS/BIOS function calls menu.

"5251 CONNECTION, THE"
Kaplan, Gerry. 4:7 (Jul 1986):76-89.
This article provides an introduction to 5251 connectivity technology. Seven 5251 emulation products for the IBM PC are reviewed: AST-5251/11 and AST-5251/11 Plus (AST Research); BlueLynx 5251-11 I, II, and III (Techland Systems); CXI PCOX/5251 TWINAX Emulator (CXI, Inc.); IDEA 5251 Emulator and 5251D Monitor Adapter Card (IDEAssociates); PC-Mini (Ampak Business Systems, Inc.); Quad5251 (Quadram Corp.); and Smart Alec (Digital Communications Associates). A table compares features. Figures show the asynchronous terminal/host connection scheme, the System/36 twin-axial connection scheme, and the 5251/12 cluster connection scheme.

5251 MONITOR ADAPTER CARD—IDEAssociates
"5251 Connection, The." 4:7 (Jul 1986):76-89.

FIGUERAS, JOHN
"Saving Space in Turbo." Tech Notebook. 3:6 (Jun 1985):39.

"FILE-SEARCH HELP FOR PC-DOS"
Gleckler, Arthur A. 3:4 (Apr 1985):138-145.
FilePath (SDA Associates), SCOUT (Computer Insights, Inc.), and EasyPath (Polygon Software Corp.) are three programs intended to enhance the file-search capabilities of DOS 2.0 by providing directory-management features, such as possible use of aliases and search rules. Of the three programs, FilePath is the best bet for novices, and EasyPath is the most flexible. A table provides acomparison of the programs' features.

FILECOMMAND—IBM
"Shell Game, The." 1:3 (Nov/Dec 1983):30-41.

"FILE-NAME EXTENSIONS"
Gleckler, Arthur A. Tech Notebook. 1:3 (Nov/Dec 1983):203.
DOS uses file-name extensions in order to describe various types of files. Twenty-nine file-name extensions and their meanings are listed.

FILEPATH—SDA Associates
"File-search Help for PC-DOS." 3:4 (Apr 1985):138-145.

FILESAFE—Mountain Computer
"Backing Up the AT With FileSafe." 2:6 (Dec 1984): 150-153.
"Moving up to Tape." 3:11 (Nov 1985):62-83.

"FILTERS AND FINITE MACHINES"
Loen, Larry W. Programming Practices. 4:2 (Feb 1986):181-190.
A tutorial is presented that describes the filter method (a file processing technique used in UNIX) and finite machines (an input stream-processing algorithm used in compilers). A listing provides a program written in Turbo Pascal that uses both techniques to sum file sizes. The algorithms make the program very readable, which allows it to interface cleanly with DOS.

FINAN, PATRICK
"Accessing the Print Queue." Programming Practices. 4:6 (Jun 1986):187-193.
"Packing the Date and Time." 3:1 (Jan 1985):46-54.

"FINDING DISK PARAMETERS"
Roberts, Glenn F. 4:5 (May 1986):112-150.
DOS maintains information about the nature, capacity, and organization of each storage device with which it interfaces. This article summarizes the various sources that provide information on DOS storage devices, including documented DOS function calls, the file allocation table (FAT), the DOS boot record, the master boot record, and the undocumented DOS function call 32H. Two utilities in C—INFO and SHOW—demonstrate access to the DOS information. Figures show the format of the DOS boot record header, a FAT chain, and sample output from INFO and SHOW. A table lists disk information sources. *Letter References—4:10 (Oct 1986):19.*

FIRST MATE—Tecmar, Inc.
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

"FIX FOR DOS USERS WITH UNIX HABITS, A"
Roskos, J. Eric. Tech Notebook. 2:2 (Aug 1984):73.
SWITCHAR=x is an undocumented DOS command that can be included in a CONFIG.SYS file to allow use of the forward slash (/) as a directory name delimiter.

"FIXED-DISK BENCHMARKS"
Hunt, William J. 2:5 (Nov 1984):64-70.
Utility programs written in C are provided for testing hard-disk performance. Tests measure sequential read performance across 1, 8, 16, and 24 sectors, and random read performance of 1 or 8 sectors across .1, .33, .5, and .9 of the width of the disk. A comparison charts summarizes the performance of the IBM diskette, RAM disk, PC/XT hard disk, and the Compaq Plus hard disk. *Letter References—3:5 (May 1985):14-16.*

"FLEXIBLE DESIGNS, A DATA MANAGER FOR"
Aarons, Richard N. 4:6 (Jun 1986):156-182.
KnowledgeMan/2 (KMAN) from Micro Database Systems, Inc. is an application development system using a relational database, a structured programming language, an SQL-like query language, and an integrated spreadsheet. Any KMAN command or feature can be invoked from anywhere in the KMAN environment. KMAN has its own Pascal-like program control structures and commands. The documentation is a strong point. Benchmark results are listed in a table, and a sidebar provides an overview of KMAN. A figure shows sample screen definitions.

"FLICKER-FREE SCROLLING"
Abrash, Michael. Tech Notebook. 4:9 (Sep 1986):43.
A program called SCROLLER.ASM eliminates the BIOS-related flicker that is produced by the Color Graphics Adapter and compatibles when scrolling in text mode.

FLOPPYTAPE—Cipher Data Products, Inc.
"Moving up to Tape." 3:11 (Nov 1985):62-83.

FOARD, RICHARD M.
"Anatomy and Construction of XB, The." 1:1 (Jul/Aug 1983):61-69, 159-161, 184.
"dBASE II Becomes C-Worthy." 1:9 (Jun 1984):194-198.
"Entity-Relationships, A Data Manager Using." 3:10 (Oct 1985):96-126.
"Experiment in Software Marketing: Freeware, An." 1:2 (Sep/Oct 1983):158-161.
"Making Connections." 3:5 (May 1985):47-51.
"Multitasking Methods." 4:3 (Mar 1986):49-61.
"PC Versions of iRMX." 4:6 (Jun 1986):126-150.
"Portable Approach, The." 4:5 (May 1986):75-89.
"Preemptive Scheduling on DOS." 4:4 (Apr 1986): 98-122.
"Uptown Printers." 3:4 (Apr 1985):49-55.
"ZIM Release 2.5." Product Watch. 4:6 (Jun 1986):195.

FOLTS, JAMES A.
"Disarming DOS FORMAT." Tech Notebook. 2:1 (Jul 1984):32.

FORD, NELSON
"Compiled/Interpreted BASIC Check." 1:5 (Feb 1984):178-179.
"Controlling Input Using Inkey$." 2:2 (Aug 1984):32-39.
"What Do BASIC Error Messages Really Mean?." Tech Notebook. 1:7 (Apr 1984):174.

FORGERON, TED
"Disappearing Cursor, The." Tech Notebook. 3:7 (Jul 1985):35.
"Machine Specifics." Programming Practices. 3:6 (Jun 1985):181-186.
"Pascal Bugs." 3:5 (May 1985):199-208.
"TakeTwo." Product Watch. 4:6 (Jun 1986):198-200.
"We Interrupt This Program." Tech Notebook. 3:4 (Apr 1985):42.

FORGERON, TED and STEVEN ARMBRUST
"Backup Utility Performance." 4:3 (Mar 1986):78-83.
"Compaq Deskpro 286." 4:8 (Aug 1986):80-91.
"Entomological Explorations." 3:1 (Jan 1985):88-105.
"Forward-Looking VDI." 3:9 (Sep 1985):42-55.
"HP Vectra." 4:10 (Oct 1986):110-130.
"Kernel Code Generation, A Data Manager with." 3:9 (Sep 1985):82-101.
"Moving up to Tape." 3:11 (Nov 1985):62-83.
".OBJ Lessons." 3:10 (Oct 1985):61-81.
"Program Orchestration." 2:5 (Nov 1984):28-44.
"Slimmer Pascal, A." Programming Practices. 3:10 (Oct 1985):173-183.
"Untangling Programs." 3:4 (Apr 1985):81-93.
"Well-formatted Pascal, The." 2:4 (Oct 1984):22-33.

FORGERON, TED, STEVEN ARMBRUST, and PAUL PIERCE
"Out from the Shadow of IBM." 4:8 (Aug 1986):52-75.

FORMULA/ONE—Alloy Computer Products, Inc.
"Equation Solving by Formula/One." 4:6 (Jun 1986): 110-125.

FORREST, JON
"Matching Regular Expressions." Programming Practices. 4:5 (May 1986):191-199.

FORTE PJ (3278/79)—Forte Communications, Inc.
"Emulating the 3278." 4:2 (Feb 1986):48-63.

"FORTH"
Kelly, Mahlon G. and Nicholas Spies. 4:9 (Sep 1986): 48-61.
This article presents a detailed tutorial showing how to write a FORTH interpreter. In the process, useful assembly language techniques, such as programming with short functions, threading, and efficient subroutine calling on the 8088, are explained. Figures show threaded execution of a FORTH program, a FORTH memory map, word format, various child-word structures, the hierarchy of FORTH words, the FORTH outer interpreter. A sidebar examines various FORTH standards and demonstrates a typical but nonstandard DOS interface with an address entry program. The program is listed.

"FORTH PROGRAMMING"
Kelly, Mahlon G. and Nicholas Spies. 4:10 (Oct 1986):133-143.
Instructions are provided for writing a text editor in FORTH that demonstrates proper top-down and bottom-up programming style. The editor processes text in FORTH program format. A circular deletion buffer allows an unlimited UNDO command. Step-by-step instructions show why FORTH generates efficient code with few bugs. Figures illustrate design specifications and the memory layout of the screen buffer and the deletion buffer.

"FORTRAN OPTIONS"
Howard, Alan. 3:10 (Oct 1985):149-169.
Four FORTRAN 77 compilers are reviewed: Digital Research, Inc.'s FORTRAN; IBM FORTRAN; Lahey Computer Systems, Inc.'s F77L compiler; and Microsoft FORTRAN. Tables compare compiler features and benchmark results. Listings show null-program, trigonometric, and Eratosthenes' sieve benchmarks, as well as a FORTRAN-adapted version of the Pentathlon benchmark. *Letter References—4:2 (Feb 1986):20-24; 4:3 (Mar 1986):18-22.*

"FORTRAN PITFALLS"
Press, Larry, Aki Runchal, and Clement Tam. 1:2 (Sep/Oct 1983):150-156.
The limitations of the IBM/Microsoft FORTRAN version 1.0 compiler are examined. The compiler places a 64KB limit on any labeled common block; a 32KB limit on any dimensioned array; and a general limit of 300KB on final .EXE file size. IBM FORTRAN is a subset of the FORTRAN-77 standard (the shortcomings of which are discussed). A table provides standard Whetstone benchmark test results for IBM FORTRAN and compares these with similar FORTRAN products running on various mini- and microcomputers. A table lists 23 bugs found in IBM FORTRAN version 1.0. *Letter References—1:5 (Feb 1984):26.*

"FORTRAN SCIENTIFIC SUBROUTINE LIBRARY"
Lima, Tony. Product Watch. 4:5 (May 1986):201.
The FORTRAN Scientific Subroutine Library, by Wiley Professional Software, is for programmers using FORTRAN to develop applications in the areas of science, engineering, or advanced statistics. Algebraic functions include operations for real and complex matrices, interpolation, and polynomial differentiation. Statistical functions include probability, linear regression, variance, and time series. Other functions deal with utilities and graphics. DOS 2.0 or later and 128KB of RAM is required; an 8087 coprocessor is recommended.

"FORWARD-LOOKING VDI"
Armbrust, Steven and Ted Forgeron. 3:9 (Sep 1985): 42-55.
Virtual device interface (VDI) is a proposed ANSI standard for a graphics system interface. VDI would enable "device-driver factories" to produce device drivers to operate with any programs that conform to VDI calling conventions. A VDI program can perform five different graphics functions: workstation control, graphics output, graphics attribute, graphics input, and status inquiry. Figures show the device driver/program relationship, and graphics standards. Figures and photos show the same graphics image generated by different output devices. Tables compare memory requirements and VDI performance. Listings show sample programs.

"FOUR MULTIFUNCTION DISPLAY ADAPTERS"
Hoffmann, Thomas V. 1:4 (Jan 1984):32-43.
Four multipurpose display adapter cards for the IBM PC are reviewed: Multi-Display Adapter (Paradise Systems), MasterGraphics Adapter (MicroGraphics Technology), Multiple Adapter Interface (Amdek), and PC-Mate Graphics Master (Tecmar). All adapters but the Graphics Master include a parallel port. A table compares the features of the various adapters. An accompanying sidebar gives a description of character generator formats. *Letter References—1:8 (May 1984):14.*

FOURPORT/XN—AST Research, Inc.
"Beyond COM2." 4:9 (Sep 1986):68-79.

"FRACTALS FOR THE PC"
Lee, Eui In. 3:11 (Nov 1985):165-178.
Fractals are curves with irregularities, breaks, or fragmentation; they are generated recursively by breaking each successively smaller curve segment in the same manner. The process of creating a fractal curve begins with a line segment, called the initiator. The initiator is replaced by a simple shape, called the generator, and each line segment in this shape is replaced by a smaller replica of the generator. Three methods for producing fractal curves are presented: direct angle, array expansion, and string array. Photos and figures show sample curves. Listings show sample programs for generating the curves. *Letter References—4:3 (Mar 1986):18.*

FRAMPTON, JOHN and MARK BRIDGER
"Creating a Standard LISP." 3:12 (Dec 1985):98-117.

FRANK, DANIEL M.
"Patchwork." Tech Notebook. 2:2 (Aug 1984):113.

FRANK, WERNER L.
"New Weapons for Fighting Software Piracy." 1:5 (Feb 1984):71-74.

FRANZ, MARTY
"Let's C." Product Watch. 4:8 (Aug 1986):176-180.
"MIX C." Product Watch. 4:9 (Sep 1986):191-193.
"State of C Interpreters, The." 4:5 (May 1986):153-163.
"Whitesmith's C Compiler." Product Watch. 4:6 (Jun 1986):200-205.

FRIEDEN, ALAN, TOM WOTEKI, DOV LEVY, THOR BESTUL, and ROBERT STINE
"Modular Constructions: Introducing Modula-2." 2:5 (Nov 1984):72-94.
"Modular Implementations." 2:6 (Dec 1984):154-182.

FULL SCREEN EDITOR—Frank Shiele Software
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

"FUTILITY OF COPY PROTECTION, THE"
Small, David. 3:12 (Dec 1985):71-77.
Several copy-protection techniques are explained. These methods include omitting a sector, generating a cyclic redundancy check (CRC) error, changing the sector interleave, numbering sectors in a nonstandard way, and altering the length of sectors. Other techniques involve changing the rotation speed of the disk, writing data on one track with a known spatial relationship to the next track, or writing nonstandard codes, as well as removing the ability to hold a magnetic field from a small area of the diskette, and writing data of different strengths onto the diskette. Hard disks are marked when the program is installed. Techniques for copy protection are being countered by more sophisticated copy programs. Flow charts show how one type of copy program works.

FX-80—Epson America, Inc.
"Epson's New RX-80 and FX-80." 1:2 (Sep/Oct 1983): 125-128.

G

GARBERS, JEFF
"Are You Sure (Y/N)?." 1:5 (Feb 1984):44-54.
"Nested Batch Files." Tech Notebook. 1:3 (Nov/Dec 1983):223.
"Oki Dokey: from PC to Okidata 84." 2:3 (Sep 1984): 92-106.

GAW 65MB EXTERNAL DRIVE—GAW Systems
"Breaking the 32MB Barrier." 4:5 (May 1986):94-108.

GENESCOPE—Genesis Microsystems
"Entomological Explorations." 3:1 (Jan 1985):88-105.

"GENSCREEN"
Noland, John C. Product Watch. 4:8 (Aug 1986): 180-181.
GENSCREEN is a screen generator for use with IBM COBOL version 1.0 and Microsoft COBOL version 2.0 and later. It is intended to reduce the time required to develop and maintain the screen section of a Microsoft COBOL program. It does not include a screen painter for screen format entry, relying instead on screen formats edited under ordinary DOS full-screen text editors.

GLASS, JIM
"Word Processor File Conversion." 1:2 (Sep/Oct 1983):168-193.

GLECKLER, ARTHUR A.
"Comparing Great Things with Small." 2:3 (Sep 1984): 65-75.
"Defining Function Keys Using ANSI.SYS." Tech Notebook. 1:6 (Mar 1984):77.
"DOS Shells Continued." 2:4 (Oct 1984):36-48.
"Epson Technical Comparison." 1:2 (Sep/Oct 1983): 130-134.
"Epson's New RX-80 and FX-80." 1:2 (Sep/Oct 1983): 125-128.
"58 Easy Pieces." 1:5 (Feb 1984):180-183.
"File-name Extensions." Tech Notebook. 1:3 (Nov/Dec 1983):203.
"File-search Help for PC-DOS." 3:4 (Apr 1985):138-145.
"IBM Diagnostic Tricks." Tech Notebook. 1:4 (Jan 1984):53.
"IBM's New Alternative to Letter-Quality Printing." 1:8 (May 1984):162-166.
"Inducing Cold Reboots." Tech Notebook. 1:2 (Sep/Oct 1983):157.
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.
"Pascal Tools Review." 1:5 (Feb 1984):161-171.

GLINERT-COLE, SUSAN
"California 10-Pack, The." 1:3 (Nov/Dec 1983):78-83.
"Clusters of Wrath." 2:2 (Aug 1984):64-72.
"Davong's Multilink: Versatility at a Moderate Price." 1:6 (Mar 1984):78-87.
"Diversionary Benchmark, A." 1:1 (Jul/Aug 1983):95-98, 116, 194.
"Name, Rank, and Serial Number." Tech Notebook. 1:8 (May 1984):192.
"Network For All Reasons, A." 2:6 (Dec 1984):90-106.
"New Twist on Networking, A." 1:8 (May 1984):168-185.
"Norton Utilities, The." 1:1 (Jul/Aug 1983):70-77.
"Program Editors." 1:2 (Sep/Oct 1983):110-123.
"QUICKCODE: Instant Gratification." 1:9 (Jun 1984): 129-145.
"Shell Game, The." 1:3 (Nov/Dec 1983):30-41.
"Two Views of the LANscape." 1:4 (Jan 1984):54-65.
"Upgrading a PC to an "XTRA T"." 1:5 (Feb 1984):75-82.
"VROOM! Performance Benchmarks for the PC/AT." 2:6 (Dec 1984):108-110.

GLINERT-COLE, SUSAN and JULIE A. ANDERSON
"Omnium-Gatherum." 2:3 (Sep 1984):56-62.

"GO FOR BROKER"
Oppenheimer, Max Stul. Legal Brief. 2:2 (Aug 1984): 18l-184.
A software broker acts as the developer's agent in marketing a software product. The limits of the broker's authority should be agreed upon as well as any reporting of progress. The broker's "apparent authority" to third parties must also be set to limit the broker's control over the property, copyrights, and trademarks. Risk to the broker should be discussed.

GOLDBERG, MORTON
"Mixing Systems Components." 1:7 (Apr 1984):106-110.

GOLDEN COMMON LISP—Gold Hill Computers
"Creating a Standard LISP." 3:12 (Dec 1985):98-117.

"GOOD FIND, A"
Ackerman, Mark S. 3:10 (Oct 1985):85-91.
A program called WHERE.C can help users locate a misplaced file on a hard disk by searching through every subdirectory for the file. The program works with DOS 2.x and 3.x.; typical DOS wild cards are accepted. A listing provides code for the program. Figures show a sample screen print, a file attribute byte, and a disk transfer address. *Letter References—4:2 (Feb 1986):16-18.*

"GRABBING PARAMETERS"
Stam, Robert B. Tech Notebook. 3:2 (Feb 1985):46.
A very short IBM Pascal utility accesses the command line arguments with which a program was invoked. The arguments are to be found in the invoked program's PSP (program segment prefix).

"GRAPHIC ENHANCEMENT"
Hoffmann, Thomas V. 3:4 (Apr 1985):58-77.
IBM's Enhanced Graphics Adapter (EGA) is given a technical review. The EGA provides graphics to the monochrome screen and higher resolution in both color text and color graphics modes. It offers new features including smooth horizontal and vertical scrolling. EGA BIOS functions and I/O address usage are summarized in two sidebars. Tables describe the operating modes, the usage of BIOS and registers, the color palette, color mixing, and supported monitor specifications. Figures with block diagrams illustrate graphics memory organization and chip layout. EGA programming techniques are demonstrated with BASIC and assembly language examples. Photos show sample video display, the circuitry, and switches. *Letter References—3:7 (Jul 1985):19; 3:9 (Sep 1985):15; 3:10 (Oct 1985):15-16.*

"GRAPHICS"
Fastie, Will. Directions. 2:4 (Oct 1984):5-6.
SIGGRAPH '84 is discussed. Seeing PCs being used in graphics systems for a variety of purposes indicates that the PC has gained tremendous acceptance in the graphics community, not so much as a machine that can handle graphics, but as a standard frame upon which to build graphics systems. Significantly, the graphics applications are using high-powered graphics subsystems, not the IBM graphics adapter and monitor. Other hot items are the integration of video with computer-generated graphics and animation, and graphics hard-copy devices.

GRAPHICS
"Animation Techniques." 4:7 (Jul 1986):46-71.
"Better CGA, A." 4:7 (Jul 1986):137-140.
"Color, Plus." 1:2 (Sep/Oct 1983):66-81.
"Computer-Generated Stereoscopic Images." 1:1 (Jul/Aug 1983):57-60, 191-194.
"Controlled Plotting Using the IBM PC." 1:1 (Jul/Aug 1983):101-103, 194-196.
"Curves Made Simple." 4:1 (Jan 1986):159-170.
"Custom Characters." Tech Notebook. 3:10 (Oct 1985):45.
"Drawing Toward Monochrome." 4:1 (Jan 1986):70-77.
"EGA Paint." Product of the Month. 4:10 (Oct 1986):31.
"EGA Spectrum, The." 4:10 (Oct 1986):80-86.
"EGA Standard, The." 4:10 (Oct 1986):48-79.
"Forward-Looking VDI." 3:9 (Sep 1985):42-55.
"Four Multifunction Display Adapters." 1:4 (Jan 1984): 32-43.
"Fractals for the PC." 3:11 (Nov 1985):165-178.
"Graphic Enhancement." 3:4 (Apr 1985):58-77.
"Graphics on the IBM Monochrome Display." 1:6 (Mar 1984):142-153.
"IBM Color/Graphics Adapter, The." 1:1 (Jul/Aug 1983):26-46, 135-145, .
"Instant Screens." 4:6 (Jun 1986):96-107.
"METAWINDOW." Product of the Month. 3:7 (Jul 1985):23.
"Painter's Algorithm, The." 3:11 (Nov 1985):181-187.
"Paradise Modular Graphics Card." Product of the Month. 3:3 (Mar 1985):21.
"Plot Thickens, The." 1:9 (Jun 1984):117-127.
"Plotting, Drawing, and Filling." 1:6 (Mar 1984):38-58.
"Power Graphics." 3:7 (Jul 1985):56-77.
"Recursive Curves." 3:4 (Apr 1985):171-174.
"Scientific Graphics with the EGA." Programming Practices. 3:9 (Sep 1985):163-170.
"Screen Of Many Colors, A." 2:4 (Oct 1984):145-146.
"Sixteen-color Graphics." Programming Practices. 4:8 (Aug 1986):159-171.
"Smooth Curves." 4:8 (Aug 1986):110-120.
"Software Sprites." 4:8 (Aug 1986):125-157.
"Three-dimensional Graphics for the IBM PC." 1:8 (May 1984):36-48.
"Using ROM Characters." Tech Notebook. 4:8 (Aug 1986):47.
"VEGA Board, The." Product of the Month. 4:4 (Apr 1986):33.
"Video I/O and Graphics with IBM Pascal." 1:6 (Mar 1984):179-182.
"Virtual Graphics Screen, A." 4:9 (Sep 1986):134-143.

"GRAPHICS (AGAIN)"
Fastie, Will. Directions. 3:7 (Jul 1985):9.
At Spring '85 COMDEX some vendors were showing prototypes compatible with IBM's Enhanced Graphics Adapter (EGA) and IBM's Professional Graphics Controller (PGC). EGA is a powerful concept that provides high resolution and color, plus support for old operational modes. To make an EGA, a company must invest as much as $1.5 million. These companies are doing so in the belief that IBM has set a standard in the industry for EGAs and that non-IBM versions will help to proliferate the standard. The PGC on the other hand should not be a standard

because of its more limited market. Companies offering PGCs for less than $3,000 make graphics workstations on the AT possible for less than $10,000.

GRAPHICS DEVELOPMENT TOOLKIT—IBM
"Forward-Looking VDI." 3:9 (Sep 1985):42-55.

GRAPHICS EDGE—Everex Systems, Inc.
"Drawing Toward Monochrome." 4:1 (Jan 1986):70-77.

"GRAPHICS ON THE IBM MONOCHROME DISPLAY"
Duncan, Ray. 1:6 (Mar 1984):142-153.
Two all-points-addressable monochrome graphics boards are reviewed: the Hercules Graphics Card and the Orchid Technology Monochrome Graphics Adapter. While the Hercules board is intended as a replacement for IBM's Monochrome Display and Printer Adapter, the board from Orchid Technology resides in an adjacent slot and connects to the monochrome adapter via several cables. Although the two boards plot at essentially the same speed, software support from Orchid, intended primarily for the assembly language programmer, is better than that from Hercules.

GRAY, ROBERT
"Significant Figures, I." 2:4 (Oct 1984):54-62.
"Significant Figures, II." 2:5 (Nov 1984):173-186.
"Significant Figures, III." 2:6 (Dec 1984):187-206.

GREENE, BOB
"Evolution of the iAPX 286, The." 2:6 (Dec 1984): 118-136.

GREENFIELD, STEVEN and ALAN PENDLETON
"Desktop Mainframe." 3:11 (Nov 1985):86-97.

GREENLEAF COMMUNICATIONS LIBRARY—Greenleaf Software, Inc.
"Drop-in Modules for C, Part 3." 3:8 (Aug 1985): 141-159.

GREENLEAF FUNCTIONS—Greenleaf Software, Inc.
"Drop-in Modules for C." 3:6 (Jun 1985):100-127.

GSS-DRIVERS—Graphic Software Systems, Inc.
"Forward-Looking VDI." 3:9 (Sep 1985):42-55.

H

HANSEL, JAMES C.
"Bomb Proofing." 1:9 (Jun 1984):64-68.

HANSEN, AUGIE
"ACS or PCM: The Better to Communicate With." 2:2 (Aug 1984):155-177.
"Beyond COM2." 4:9 (Sep 1986):68-79.
"Communicating from Within." 3:9 (Sep 1985):60-77.
"Controlling from Afar." 4:4 (Apr 1986):84-93.
"Crosstalking." 2:1 (Jul 1984):90-108.
"Electronic Messaging." 3:2 (Feb 1985):141-149.
"High-tech Mimicry." 2:3 (Sep 1984):46-55.
"Instant Relay." 2:4 (Oct 1984):94-112.
"Instant Screens." 4:6 (Jun 1986):96-107.
"Kermit." 3:1 (Jan 1985):110-123.
"Making of an XT, The." 3:3 (Mar 1985):161-171.
"Memory Sidecars." 3:2 (Feb 1985):54-63.
"PC Modem Half Card." Product Watch. 4:10 (Oct 1986):185-188.
"PC/IX." 3:7 (Jul 1985):80-87.
"Reflections of UNIX." 3:5 (May 1985):54-73.
"Replacement Disks for the AT." 3:8 (Aug 1985):74-79.
"Screenspeak." 2:5 (Nov 1984):151-170.
"Telios." 3:1 (Jan 1985):130-139.
"UNIX Heritage, A Data Manager with a." 3:12 (Dec 1985):118-131.
"Using DOS Loops." Tech Notebook. 4:4 (Apr 1986):50.
"VENIX: Setting UNIX Standards." 4:2 (Feb 1986): 153-159.
"Ventel." Product Watch. 4:10 (Oct 1986):185-188.
"XENIX for the XT." 3:6 (Jun 1985):129-140.
"XENIX Lives." 2:6 (Dec 1984):114-115.

HANSEN, PER BRINCH
"Systematic Programming in Edison." 1:2 (Sep/Oct 1983):84-88.

"HARD (OR IS IT FIXED?) DISK REVOLUTION, THE"
Fastie, Will. Directions. 2:5 (Nov 1984):5-6.
When IBM introduced the XT in early 1983, 10MB became the industry standard for microcomputer storage. The 20MB disk drive of the new PC/AT has better performance characteristics than any available previously. IBM has established a de facto standard of hard-disk controllers for the XT, but not all third-party controllers are completely compatible. They all run PC-DOS without fail, but for true compatibility they must run PC/IX as well. *Letter References—3:3 (Mar 1985):17.*

HARDCARD—Plus Development Corp.
"Hardcard, The." Product of the Month. 4:2 (Feb 1986):31.
"Storage on a Card." 4:2 (Feb 1986):139-144.

"HARDCARD, THE"
Duntemann, Jeff. Product of the Month. 4:2 (Feb 1986):31.
Plus Development Corp.'s Hardcard is a shock-resistant, 10MB hard-disk system built onto a PC expansion card. It occupies a single PC or PC/XT expansion slot and does not interfere with boards in adjacent slots. The disk is preformatted and can be installed easily by nontechnical users. Product simplicity was achieved in large part by substituting the standard ST-506 hard-disk interface with a design tailored to the PC architecture.

HARIAN, ARMEN and JEFFREY KRANTZ
"Programming for the 3270-PC." 3:3 (Mar 1985):74-88.

HCS EDITOR—Heuristic Computer Systems
"In the ISPF Tradition." 4:3 (Mar 1986):113-138.

"HEAD START ON PROGRAM GENERATION, A"
Christian, Chris. 1:9 (Jun 1984):146-177.
Autocode 1 from Axel Johnson Corp. is a program development tool for use with dBASE II. Although it is easy to use, its limitations may be disappointing. Autocode 1 generates dBASE II code for adding, finding, editing, and deleting records in a single file. It can handle a maximum of 32 fields. Simple columnar reports may also be generated. Autocode 1 is worth considering as a head start on writing dBASE II code. An editor's note briefly describes the additional features of Autocode Plus.

HELIX PC BUBBLE DISK—Helix Systems and Development Corp.
"Bubble Boards." 3:5 (May 1985):123-136.

HELIX RS-232 PORT, PASSWORD FEATURE—Helix Systems and Development Corp.
"Bubble Boards." 3:5 (May 1985):123-136.

"HELP!"
Fastie, Will. Directions. 2:1 (Jul 1984):5-6.
The trend in on-line help assistance techniques has been from plain menus to context-sensitive text. Context-sensitive help tends to be easier to dispense with as the user learns more about the software. Help facilities included with software should be designed to help the experienced user as well as the novice.

HERCULES GRAPHICS CARD—Hercules Computer Technology
"Graphics on the IBM Monochrome Display." 1:6 (Mar 1984):142-153.

HDK-10—Sigma Designs, Inc.
"Ten by Ten." 2:5 (Nov 1984):52-63.

HHK-10—Sigma Designs, Inc.
"Ten By Ten." 2:5 (Nov 1984):52-63.

"HIGH-TECH MIMICRY"
Hansen, Augie. 2:3 (Sep 1984):46-55.
Ten communications software packages are evaluated in terms of their use as terminal emulation software. The programs are: Communique (Computerized Office Services, Inc.), Crosstalk XVI (Microstuf, Inc.), direct.connect (Direct.aid, Inc.), IBM 3101 Emulation Program (IBM), The Impersonator (Direct.aid, Inc.), Omniterm2 (Lindbergh Systems, Inc.), PC/InterComm (Mark of the Unicorn, Inc.), Relay (VM Personal Computing), SmarTerm 100 (Persoft Inc.) and SIMTERM (Jim Holtman). Tables compare the types of terminals emulated, VT 100 and 3101 terminal features. Recommendations: for VT 100 emulation, Smart Term 100 and PC/InterComm; for general use, The Impersonator, Omniterm 2, and Crosstalk XVI. *Letter References—3:1 (Jan 1985):13.*

HOCKSWENDER, THOMAS
"Controlled Plotting Using the IBM PC." 1:1 (Jul/Aug 1983):101-103, 194-196.

HOFFMANN, THOMAS V.
"Analyzing the Advanced Technology." 2:6 (Dec 1984): 40-56.
"Breaking the 32MB Barrier." 4:5 (May 1986):94-108.
"Color, Plus." 1:2 (Sep/Oct 1983):66-81.
"Four Multifunction Display Adapters." 1:4 (Jan 1984): 32-43.
"Graphic Enhancement." 3:4 (Apr 1985):58-77.
"IBM Color/Graphics Adapter, The." 1:1 (Jul/Aug 1983):26-46, 135-145, 163.
"Inside *jr*." 1:8 (May 1984):52-80.
"It's PC Probe!." 1:8 (May 1984):86-96.
"Power Graphics." 3:7 (Jul 1985):56-77.
"Stalking the Software Bug." 1:8 (May 1984):100-108.
"Storage Expansion for the AT." 4:2 (Feb 1986):147-150.
"Storage on a Card." 4:2 (Feb 1986):139-144.
"Ten By Ten." 2:5 (Nov 1984):52-63.

HOLSAPPLE, CLYDE W.
"Perspective on Data Models, A." 2:1 (Jul 1984):113-142.
"SQL on the IBM PC." 1:3 (Nov/Dec 1983):72-77.

HOST CONTERENCING SYSTEM AND UTILITIES III—Janadon Inc./WBS and Associates, Inc.
"Electronic Messaging." 3:2 (Feb 1985):141-149.

HOST PCE MAIL—Janadon/WBS and Associates, Inc.
"Electronic Messaging." 3:2 (Feb 1985):141-149.

HOSTCOMM—Janadon/WBS and Associates, Inc.
"Electronic Messaging." 3:2 (Feb 1985):141-149.

HOSTESS 8 MULTIPORT NETWORK—Control Systems
"Beyond COM2." 4:9 (Sep 1986):68-79.

"HOW TO CHOOSE A C COMPILER"
Hunt, William J. 1:1 (Jul/Aug 1983):78-91, 177-178.
The C programming language is a serious alternative to BASIC because it produces faster, more efficient code. A good compiler requires 128KB of RAM and two double-sided 360KB disk drives. Factors to examine when choosing a C compiler are size of compiler disk files, compiler speed, error messages, compatibility with DOS, support of the full C language, included library functions, interface with assembly language functions, and memory usage. Other criteria to examine are documentation quality, support of separate compilation, and production of .OBJ files. Included are tables with selection criteria for C compilers, disk drive set-up for a C compiler, and library functions. An index of available C compilers is included. *Letter References—1:3 (Nov/Dec 1983):26.*

HOWARD, ALAN
"FORTRAN Options." 3:10 (Oct 1985):149-169.

"HP VECTRA"
Armbrust, Steven and Ted Forgeron. 4:10 (Oct 1986):110-130.
The Hewlett-Packard Vectra, an IBM PC/AT-compatible computer, is reviewed. Some incompatibilities with the AT when running certain applications are noted. HP Vectra's hard-disk performance is comparable to that of the PC/XT but not to that of the AT. The machine's disk-mounting system is convenient, with the exception of third-party hard-disk drives, which may be difficult to install. The footprint of the HP Vectra is smaller than that the AT. Features such as the touchscreen, the multimode video adapter, soft keys, and the HP-HIL interface make the machine an attractive alternative for some users.

HR-640E—Basic Time
"EGA Spectrum, The, Part 1." 4:10 (Oct 1986):80-86.

HULTQUIST, PAUL F.
"BASIC Development System." Product Watch. 4:6 (Jun 1986):196-198.
"Doubly Careful." Tech Notebook. 3:11 (Nov 1985):56.
"Powers that Be, The." Programming Practices. 3:5 (May 1985):213-214.
"Random Number Generators." 2:2 (Aug 1984):86-110.

HUNT, WILLIAM J.
"C and the PC, Part 1." 1:3 (Nov/Dec 1983):110-130.
"C and the PC, Part 2." 1:4 (Jan 1984):91-140.
"Drop-in Modules for C, Part 1." 3:6 (Jun 1985):100-127.
"Drop-in Modules for C, Part 2." 3:7 (Jul 1985):135-146.
"Drop-in Modules for C, Part 3." 3:8 (Aug 1985): 141-159.
"Fixed-disk Benchmarks." 2:5 (Nov 1984):64-70.
"How to Choose a C Compiler." 1:1 (Jul/Aug 1983):78-91, 177-178.
"State of C, The." 4:1 (Jan 1986):82-108.

I

iAPX—Intel Corp.
"Evolution of the iAPX 286, The." 2:6 (Dec 1984): 118-136.

iAPX 86 C—Lattice, Inc.
"State of C, The." 4:1 (Jan 1986):82-108.

IBM AT/370—IBM
"Desktop Mainframe." 3:11 (Nov 1985):86-97.

"IBM BASIC AND THE STORAGE OF SINGLE-PRECISION VARIABLES"
Mather, Michael. 1:7 (Apr 1984):86-92.
A listing and program fragments show where to look for round-off error in interpreted BASIC and how to handle it. Round-off error occurs when single-precision numbers are used with PRINT, STR$, and other statements.

IBM CLUSTER—IBM
"Clusters of Wrath." 2:2 (Aug 1984):64-72.

IBM COBOL—IBM
"COBOL Performs, Part 3." 3:8 (Aug 1985):107-136.

IBM COLOR GRAPHICS ADAPTER—IBM
"IBM Color Graphics Adapter, The." 1:1 (Jul/Aug 1983):26-46, 135-145.

"IBM COLOR GRAPHICS ADAPTER, THE"
Hoffmann, Thomas V. 1:1 (Jul/Aug 1983):26-46, 135-145, 163-166.
This article provides a complete technical description and critique of IBM's Color Graphics Adapter (CGA). The CGA is built around the Motorola 6845 CRT controller and provides 25-by-40 text, 25-by-80 text, and two graphics modes: 320-by-200 four-color and 640-by-200 two- color. Screen/memory mapping is detailed in a figure. 6845 control registers and register bit functions are described in text and tables. Tables detail raster and retrace timings, color composition, definition of display positions with character code/attribute format, medium-resolution color sets, and standard video modes. Four demonsration programs illustrate CGA program techniques in BASIC. *Letter References—1:2 (Sep/Oct 1983):27; 1:3 (Nov/Dec 1983):26.*

IBM COLOR GRAPHICS PRINTER—IBM
"Comparing Great Things with Small." 2:3 (Sep 1984): 65-75.

IBM COMPACT PRINTER—IBM
"Comparing Great Things with Small." 2:3 (Sep 1984): 65-75.

"IBM DIAGNOSTIC TRICKS"
Gleckler, Arthur A. Tech Notebook. 1:4 (Jan 1984):53.
The IBM PC Diagnostics Aids package includes its own version of COMMAND.COM. Thus, it can be invoked while using DOS by typing COMMAND (with the diagnostics diskette in the default drive) or by booting the system with the diagnostics diskette in drive A:. An undocumented feature allows running another program without exiting to DOS.

IBM ELECTRONIC 65/85 TYPEWRITER ATTACHMENT DEVICE—IBM
"IBM's New Alternative to Letter-quality Printing." 1:8 (May 1984):162-166.

IBM ENHANCED GRAPHICS ADAPTER—IBM
"EGA Spectrum, The, Part 1." 4:10 (Oct 1986):80-86.
"Graphic Enhancement." 3:4 (Apr 1985):58-77.

IBM EXPANSION CHASSIS—IBM
"Upgrading a PC to an "Xtra T"." 1:5 (Feb 1984):75-82.

IBM GRAPHICS PRINTER—IBM
"Epson Technical Comparison." 1:2 (Sep/Oct 1983): 130-134.

IBM HIGH LEVEL LANGUAGE API—IBM
"Keystroke Automation." 4:1 (Jan 1986):113-122.

IBM PASCAL—IBM
"Approaching the Optimum Pascal." 4:7 (Jul 1986): 94-133.

IBM PC NETWORK—IBM
"Network for All Reasons, A." 2:6 (Dec 1984):90-106.

IBM PC PROFESSIONAL FORTRAN—IBM
"FORTRAN Options." 3:10 (Oct 1985):149-169.

IBM PC/AT—IBM
"Analyzing the Advanced Technology." 2:6 (Dec 1984): 40-56.

IBM PC*jr*.—IBM
"Inside *jr*." 1:8 (May 1984):52-80.

IBM PC*jr* 128KB EXPANSION MEMORY BOARD—IBM
"Memory Sidecars." 3:2 (Feb 1985):54-63.

IBM PERSONAL COMPUTER XENIX—IBM
"XENIX Lives." 2:6 (Dec 1984):114-115.

IBM PROFESSIONAL EDITOR—IBM
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

"IBM SOFTWARE LICENSE, THE"
Oppenheimer, Max Stul. Legal Brief. 1:1 (Jul/Aug 1983):149-156.
The IBM Program License Agreement, which is attached to all IBM PC software and its legal implications are discussed. According to the agreement, IBM leases software programs to the user; the programs are not purchased outright. In addition, the agreement limits use of a program to a particular machine. IBM asserts that users accept the terms of this agreement when they open the package. However, the agreement may or may not be considered a legal and binding contract, depending upon the situation and state law. Figures show the agreement and a translation by the author.

IBM 3101 EMULATION PROGRAM—IBM
"High-tech Mimicry." 2:3 (Sep 1984):46-55.

IBM 3278/79 EMULATION ADAPTER—IBM
"Emulating the 3278." 4:2 (Feb 1986):48-63.

"IBM'S BASIC PROGRAMMING DEVELOPMENT SYSTEM"
Awalt, Don. 1:1 (Jul/Aug 1983):107-114.
IBM's BASIC Programming Development System was designed to provide development tools for BASICA programmers. It includes a structured preprocessor, text editor, listing formatter, and cross referencer. The preprocessor's structured macros (key words) are limited in power, and some of them are more confusing than their expanded BASIC code. The text editor is awkward, limited in power, and edits only 999 lines at a time.

"IBM'S NEW ALTERNATIVE TO LETTER-QUALITY PRINTING"
Gleckler, Arthur A. 1:8 (May 1984):162-166.
The IBM Typewriter Attachment Device is a small printed circuit board that is installed in IBM's Electronic 65 and 85 typewriters, allowing them to be connected to a standard PC parallel port. After a simple driver program is installed on the PC, characters can be sent to the typewriter as if it were a printer. It still can be used as a typewriter without being disconnected from the computer. This printing method lacks the convenience of an automatic single-sheet feeder or tractor-feed mechanism.

I-BUS EXPANSION CHASSIS—I-Bus Systems
"Upgrading a PC to an "Xtra T"." 1:5 (Feb 1984):75-82.

ICE-88—Intel Corp.
"Entomological Explorations." 3:1 (Jan 1985):88-105.

IDEABOARD—IDEAssociates
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

IDEACOMM 3278—IDEAssociates
"Emulating the 3278." 4:2 (Feb 1986):48-63.

IDEACOMM 5251 EMULATOR—IDEAssociates
"5251 Connection, The." 4:7 (Jul 1986):76-89.

"IDEAL GUIDEBOOK, THE"
Oppenheimer, Max Stul. Legal Brief. 3:11 (Nov 1985):195-199.
Three books are reviewed that may be useful to software professionals: *How to Copyright Software* by M.J. Salone and Stephen Elias; *How to Be a Successful Computer Consultant* by Alan R. Simon; and *The Computer User's Legal Guide* by R. Lee Hagelshaw.

I-EDIT—Innovative Technology, Inc.
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

ILLOWSKY, DAN and MICHAEL ABRASH
"Animation Techniques." 4:7 (Jul 1986):46-71.
"Customized Boots." 3:2 (Feb 1985):150-159.
"Software Sprites." 4:8 (Aug 1986):125-157.
"Up, Down, Right, Left, and Check, Part 1." 1:4 (Jan 1984):46-52.
"Up, Down, Right, Left, and Check, Part 2." 1:5 (Feb 1984):93-116.

IMPERSONATOR, THE—Direct.aid Inc.
"High-tech Mimicry." 2:3 (Sep 1984):46-55.

"IMPRESSIONS FROM COMDEX"
Fastie, Will. Directions. 4:2 (Feb 1986):11-12.
The Fall '85 COMDEX is discussed. The Atari 520ST was present along with many third-party developers showing their wares for the machine. The Lotus/Intel/Microsoft Expanded Memory Specification (LIM EMS) has become a de facto standard; 30 major programs either are compatible now or will be soon. TheSys announced an 8MB CMOS RAM memory board and a 16MB solid-state hard disk with an access time of 10 microseconds. Microsoft Windows, heavily promoted at the show, now runs on many different machines. Network activity was high in the wake of the IBM Token-Ring announcement.

"IMPROVING TURBO'S I/O"
Brecheen, Cole. 3:9 (Sep 1985):104-132.
A large library of Pascal routines corrects the I/O deficiencies of the otherwise excellent Turbo Pascal version 2.0 compiler. The routines bring Turbo up to date by incorporating the enhanced file-handling and I/O functions of DOS 2.x and 3.x. The routines also provide terminal-independent screen I/O, a major improvement over Turbo's method of patching program .COM files to accommodate a new console. *Letter References—4:1 (Jan 1986):15; 4:3 (Mar 1986):16.*

"IN THE ISPF TRADITION"
Spraycar, Rudy S. 4:3 (Mar 1986):113-138.
Four implementations of ISPF for the PC are reviewed: APS/SPF 2.2 (Arrix Logic Systems, Inc.); HCS Editor (Heuristic Computer Systems); micro/SPF 3.2 (PHASER Systems, Inc.); and SPF/PC 1.82 (Command Technology Corp.). Each of the four implementations for the PC is compared to the IBM ISPF mainframe full-screen editor. Tables list function and control key defaults for the four editors, scrolling commands, edit and browse primary commands, find and change parameters, line commands, general features, and the results of performance benchmarks. *Letter References—4:6 (Jun 1986):17.*

"INDUCING COLD REBOOTS"
Gleckler, Arthur A. Tech Notebook. 1:2 (Sep/Oct 1983):157.
On the IBM PC, a cold boot causes both a hardware self-test and memory test. During a warm boot, however, the memory is not tested. A program utility written in BASIC is presented that performs the hardware and memory tests during a warm boot.

INFORMIX-SQL—Relational Database Systems, Inc.
"UNIX Heritage, A Data Manager with a." 3:12 (Dec 1985):118-131.

"INFRINGEMENT BY COMPATIBLES"
Oppenheimer, Max Stul. Legal Brief. 4:4 (Apr 1986): 201-203.
Early programmers tried in vain to patent their products. Copyrights appear to be the only protection available to programmers; copyrights, however, do not protect the idea, only the expression of it.

"INLINE INTERRUPTS"
Edwards, Charles C. Programming Practices. 3:12 (Dec 1985):181-187.
Guidelines to writing Turbo Pascal interrupt handlers are offered. The example is given of a dumb terminal emulator that uses interrupts to buffer input from the PC's serial port. Figures compare Turbo Pascal's entry and exit code with revised entry and exit code. A listing provides a fully functional dumb terminal program. *Letter References—4:6 (Jun 1986):24-27.*

"INSIDE 1-2-3 WORKSHEET FILES"
Sharpe, William F. 2:4 (Oct 1984):155-172.
Information is provided to allow BASIC programs to access the data in a Lotus 1-2-3 file or create new 1-2-3 worksheet files from BASIC. This allows more efficient processing of 1-2-3 data than the Lotus Translate Facility, especially for numeric processing. A figure shows the format of records within a worksheet file. A BASIC program to print the data in a spreadsheet file is listed.

"INSIDE *jr*"
Hoffmann, Thomas V. 1:8 (May 1984):52-80.
The IBM PC*jr* differs from the PC in that it offers a new system package with unique peripheral connectors, dedicated internal option connectors, bolt-on bus expansion modules, and an external power transformer. The PC*jr* keyboard is a wireless infrared with only 62 keys, but it has the ability to generate all the codes obtainable from the PC's 83-key keyboard. The keyboard, however, is not full-stroke and the Keytronic Deluxe KB 515*jr* is a good replacement keyboard. Photos show internal and external parts of the PC*jr*. Tables include a *jr* address map, ROM BIOS software interrupts, ROM formats, and internal modem commands. The features of the PC and the PC*jr* are compared in a table.

"INSIDE LOOK AT MICROSOFT BASIC ON THE IBM PC, AN"
Metzger, Robert. 1:3 (Nov/Dec 1983):62-71.
A technical summary of Microsoft BASIC internals is presented, including tokenization, data representation, storage use, and interpreter scanning algorithms. The methods used to explore the BASIC interpreter are provided, along with tips on how to optimize BASIC programs. Tables summarize token values in all versions of BASIC, including cassette, storage of array and scalar variables, and allocation of space in the interpreter work area. Example programs explore tokenized BASIC programs. *Letter References—1:6 (Mar 1984):26.*

INSTANT-C—Rational Systems, Inc.
"State of C Interpreters, The." 4:5 (May 1986):153-163.

"INSTANT RELAY"
Hansen, Augie. 2:4 (Oct 1984):94-112.
VM Personal Computing, Inc.'s Relay features terminal emulation (VTR-100), file transfer protocols, keyboard customization, an unattended answering mode, a dialing directory, script commands, translation tables, and a full-screen editor. Screen photos display viewing windows and menus. One figure shows a high-level view of a PC-to-PC session using Relay, and another gives a sample script file. *Letter References—3:1 (Jan 1985):14.*

"INSTANT SCREENS"
Hansen, Augie. 4:6 (Jun 1986):96-107.
A method is discussed for obtaining fast text display changes on the IBM Color Graphics Adapter without producing visual interference. The new display information is put into the active page during the vertical and horizontal retrace periods of the display scan. Then, when all the information is present, the active page is made the visual page, and the visual page is made the new active page. This updates the screen almost instantaneously, thus eliminating snow. Figures show the raster scan, block

transfers, double buffering, and page flipping. Listings provide the necessary code for the programming technique. *Letter References—4:10 (Oct 1986):19-24.*

"INTEL BIBLIOGRAPHY FOR iAPX 286, AN"
Creane, James. 2:6 (Dec 1984):140-144.
A bibliography of Intel literature on the 80186, 80286, and 8089 microprocessors is presented to iAPX users. The literature can be ordered directly from Intel. Address and price information is included.

"INTELLIGENT SCREEN FORMS, A DATA MANAGER FOR"
Christian, Chris. 4:1 (Jan 1986):126-142.
Q-PRO4, from Q-N-E International, uses a forms processing approach to data management. It is particularly appropriate for business applications that require a highly controlled user interface with familiar office forms. The package combines a data entry language with a sophisticated report generator and offers an optional query package. The total package also includes an application generator and the runtime interpreter. Benchmark results are given in a table. Figures show a sample file description, a program fragment, and annotated query parameters. Photos depict the format builder menu, a report field definition, and a report region definition. *Letter References—4:6 (Jun 1986):20-22; 4:8 (Aug 1986):15.*

INTELLIMODEM XT—Bizcomp Corp.
"Communicating from Within." 3:9 (Sep 1985):60-77.

"INTERACTIVE CAD"
Wright, Victor E. 4:9 (Sep 1986):102-129.
T&W Systems, Inc.'s product line, which includes VersaCAD, VersaDATA, and VersaLINK, is reviewed. VersaCAD is a two-dimensional system. VersaDATA offers database management interactively with the drawing package. Nonvisible attributes can be assigned and organized into a report format without exiting the drawing. Changes made to the drawing are reflected immediately in the database and vice versa. VersaLINK generates bills of material automatically. Photos and figures show sample screens produced by the package.

INTERROGATOR—Dysan Corp.
"Testing 1,2,3,4,5." 3:5 (May 1985):142-152.

"INTERRUPTS AND THE IBM PC, PART 1"
Dunford, Chris. 1:3 (Nov/Dec 1983):173-199.
The IBM PC uses some of the features of the Intel 8259A interrupt controller. Drawing on Intel technical manuals, the author provides a description of the chip's capabilities. The 8259 chip oversees the PC's eight interrupt lines and sends them to the central 8088 processor one at a time. Maskable interrupts, nonmaskable interrupts, and order of servicing interrupts are described. Figures show the interrupt process, mask modes, and initialization of command words.

"INTERRUPTS AND THE IBM PC, PART 2"
Dunford, Chris. 1:4 (Jan 1984):144-186.
A practical example of an interrupt-driven communications program is presented. The 8259 chip must interface with the serial board's INS 8250 Asynchronous Communications Element in order to process serial port interrupts correctly. The assembly language program is a dumb terminal emulator, and a listing is provided. In addition, a short assembly language program to generate data-ready interrupts on the 8250 is given.

INTRODUCING C—Computer Innovations
"State of C Interpreters, The." 4:5 (May 1986):153-163.

IQ LISP—Integral Quality
"PC Speaks LISP, The." 1:7 (Apr 1984):112-148.

IRMA 3270—Digital Communications Associates
"Emulating the 3278." 4:2 (Feb 1986):48-63.

"IRRESISTIBLE DOS 3.0"
Anderson, Julie A. 2:6 (Dec 1984):74-87.
DOS 3.0 is evaluated. Although it is upwardly compatible with version 2.1, the newer version is much larger—IBM recommends a minimum of 96KB of user memory (128KB with a hard disk) to run 3.0 successfully. It includes the international support feature, which provides the date, time, and currency formulas for 15 different countries. The new version's file sharing and disk structure features, as well as other enhancements are discussed. Tables show new or enhanced DOS commands and interrupts, a list of country-dependent information, DOS 3.0 formatting parameters, and new parameters for the print command. A sidebar covers new commands in BASIC 3.0. *Letter References—3:5 (May 1985):20.*

"IT'S PC PROBE!"
Hoffmann, Thomas V. 1:8 (May 1984):86-96.
PC Probe from Atron Corp. offers powerful hardware trace and breakpoint capabilities as well as an excellent debug program complete with facilities for symbolic debugging of high-level language programs. Photos show sample screen displays.

J

JAFFE, ERIC and NEIL SARNAK
"8087 Performance Considerations." 1:2 (Sep/Oct 1983):30-47.

JEL, JFORMAT—Tall Tree Systems
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

"JENSEN JTK-16 ELECTRONIC TOOL KIT, THE"
Fastie, Will. 1:6 (Mar 1984):166-173.
The JTK-16, available from Jensen Tools, Inc., is a high-quality, compact, and effective tool kit for routine maintenance as well as difficult repairs to the IBM PC. Figures list the tools included with the JTK-16 as well as the prices and options of other kits available from Jensen.

JIMENEZ, JUAN and STEVE KING
"8088 vs V20." 4:4 (Apr 1986):73-79.

JOHNSON, STEVE and BOB KEPHART
"Plot Thickens, The." 1:9 (Jun 1984):117-127.

"JOYSTICK METRICS"
Covington, Michael A. 3:5 (May 1985):99-109.
The joystick port of an IBM PC can be used with analog-to-digital converters in order to measure physical conditions such as heat, resistance, capacitance, and voltage. No modification to the PC is necessary. BASIC listings are presented that allow the circuit to transform the PC into an oscilloscope. With further programming, the PC oscilloscope can generate logarithmic scales, transform data before displaying them, edit wave forms, store readings, or compare predicted readings against those measured by the device. Figures illustrate the joystick port operation and output from the listings.

JRAM-2—Tall Tree Systems
"Enhancement by JRAM-2." 3:3 (Mar 1985):92-99.

*jr*CAPTAIN—Tecmar, Inc.
"Memory Sidecars." 3:2 (Feb 1985):54-63.

*jr*WAVE—Tecmar, Inc.
"Memory Sidecars." 3:2 (Feb 1985):54-63.

JTK-16 ELECTRONIC TOOL KIT—Jensen Tools
"Jensen JTK-16 Electronic Tool Kit, The." 1:6 (Mar 1984):166-173.

K

KAPLAN, GERRY
"5251 Connection, The." 4:7 (Jul 1986):76-89.

KARAMAN, MARK
"Transaction Processing, A Data Manager for." 4:3 (Mar 1986):142-158.

KELLER, HARRY E.
"Customized Scrolling." Programming Practices. 4:1 (Jan 1986):173-187.

KELLY, MAHLON G. and NICHOLAS SPIES
"FORTH." 4:9 (Sep 1986):48-61.
"FORTH Programming." 4:10 (Oct 1986):133-143.

KEPHART, BOB and STEVE JOHNSON
"Plot Thickens, The." 1:9 (Jun 1984):117-127.

"KERMIT"
Hansen, Augie. 3:1 (Jan 1985):110-123.
Kermit (Columbia University Center for Computing Activities) is a file transfer protocol using packet-communications technology. It is not machine-, architecture-, language-, or transmission-dependent. It uses *eighth-bit quoting*, which permits binary files to be treated as if they were ASCII text. Kermit permits detection and correction of errors. It can use a 1- or 2-byte checksum or a 3-byte CRC in error detection. Figures illustrate the packet data transfer method. Tables list functions, features, and commands. *Letter References—3:4 (Apr 1985):15-16.*

"KERNEL CODE GENERATION, A DATA MANAGER WITH"
Armbrust, Steven and Ted Forgeron. 3:9 (Sep 1985): 82-101.
R:base 5000 from Microrim is the successor to R:base 4000 and the company's answer to Ashton-Tate's dBASE III. R:base 5000 includes Application EXPRESS, a source code generator; File Gateway, the R:base data transfer program; RBEDIT, a source code editor; the R:base interpreter program; and a compiler. A table gives benchmark results; a sidebar provides an overview. A listing gives the code used to accept data from the sample data entry screen. *Letter References—3:12 (Dec 1985):15-17.*

"KEYBOARD AND DISPLAY INTERFACING"
Cole, John. 1:7 (Apr 1984):182-194.
Listed programs form a user-friendly interface to the powerful, but hard-to-use, ROM BIOS and DOS calls. Functions include screen control for monochrome and color adapters, sound control, and time and date query.

"KEYBOARD SCAN CODES"
Mirecki, Ted. Tech Notebook. 3:6 (Jun 1985):40.
A program is presented for obtaining keyboard scan codes. The assembly language program reacts to each keystroke with a four-character display of the form XXYY, where XX is the hexadecimal representation of the scan code, and YY is the ASCII code for the key pressed. *Letter References—3:9 (Sep 1985):18.*

"KEYBOARD SHORTCUTS"
Walkenbach, John. 3:10 (Oct 1985):131-144.
Keyboard macro processing programs allow users to express complicated functions in a single keystroke. Although most large software packages provide built-in macro functions, separate macro processors, designed to work in conjunction with other software, are also available. Six such programs are reviewed: KEYSWAP (Rickerdata, Inc.); Keyworks (Alpha Software Corp.); ProKey (RoseSoft, Inc.); RE/Call (Yes Software, Inc.); SmartKey (Software Research Technology); and SuperKey (Borland International Inc.). A table compares the programs' features. Figures show macro definition files.

"KEYSTROKE AUTOMATION"
Singer, John. 4:1 (Jan 1986):113-122.
The IBM High-Level Language Application Program Interface (API) allows a 3270-PC with the 3270-PC Control Program 1.2 to act as a 3278/79 terminal operator. The article describes the 3278 terminal and operating environment, the API function set, and a sample API application program that extracts data from an IBM mainframe database and stores it on disk. Figures show the 3270-PC software environment and a sample 3270-PC API application.

KEYSWAP—Rickerdata, Inc.
"Keyboard Shortcuts." 3:10 (Oct 1985):131-144.

KEYWORKS—Alpha Software Corp.
"Keyboard Shortcuts." 3:10 (Oct 1985):131-144.

KING, STEVE and JUAN JIMENEZ
"8088 vs V20." 4:4 (Apr 1986):73-79.

KNOWLEDGEMAN—Micro Data Base Systems, Inc.
"SQL on the IBM PC." 1:3 (Nov/Dec 1983):72-77.

KNOWLEDGEMAN/2—Micro Database Systems, Inc.
"Flexible Designs, A Data Manager for." 4:6 (Jun 1986):156-182.

KOEHLER, ERNEST S.
"Name That Volume." Tech Notebook. 3:9 (Sep 1985):37.

KORKUT, D. Z.
"Single-stepping and Tracing." 1:8 (May 1984):130-144.

KRAMER, MICHAEL, WALTER SCHREINER, SIMON KRISCHER, and YEDIDYAH LANGSAM
"Nonlinear Least-squares Fitting." 3:5 (May 1985): 170-190.

KRANTZ, JEFFREY and ARMEN HARIAN
"Programming for the 3270-PC." 3:3 (Mar 1985):74-88.

KRISCHER, SIMON, WALTER SCHREINER, MICHAEL KRAMER, and YEDIDYAH LANGSAM
"Nonlinear Least-squares Fitting." 3:5 (May 1985): 170-190.

KRUMREY, ART
"NetWare in Control." 3:11 (Nov 1985):102-119.
"SNA Strategies." 3:7 (Jul 1985):40-53.

"KSH-1 SCIENTIFIC CALCULATOR"
Wilson, Jeffery W. Product Watch. 4:7 (Jul 1986): 172-176.
KSH-1 from K-Software House is a powerful, pop-up calculator with a clumsy keyboard interface. The KSH-1 emulates the Hewlett-Packard HP-11C pocket calculator (including the programming mode). Unfortunately, functions are invoked using key sequences that are complicated and not easily remembered.

L

LAB MASTER BOARD—Tecmar, Inc.
"Digital-to-Analog, Analog-to-Digital." 1:6 (Mar 1984): 104-116.

LAB MASTER—Scientific Solutions, Inc.
"Digitizing Analog Data." 4:5 (May 1986):52-71.

LAKNER, PETER and DOUG SHERMAN
"dBASE II Programming Techniques." 1:9 (Jun 1984): 72-78.

LAMB—American Micronics, Inc.
"Beyond COM2." 4:9 (Sep 1986):68-79.

"LAN OF IBM, THE"
Fastie, Will. Directions. 4:1 (Jan 1986):9-10.
IBM's announcement of the token-ring LAN means the death of the PC Network. PC Network uses broadband technology, which is difficult to install and maintain. Response to IBM's newly announced Token-Ring Network has been strong. The new network supports the NET BIOS interface and the newer APPC interface, so software designed for the PC Network is compatible with the new network. The Token-Ring network is faster than the PC Network, will probably have significantly better throughput, cannot be connected incorrectly, and allows physical connections to be made or broken at any time. *Letter References—4:6 (Jun 1986):22-23.*

LANGSAM, YEDIDYAH, WALTER SCHREINER, MICHAEL KRAMER, and SIMON KRISCHER
"Nonlinear Least-squares Fitting." 3:5(May 1985): 170-190.

"LANGUAGE INTEGRATION"
Duntemann, Jeff. Product of the Month. 4:7 (Jul 1986):29.
Program code ported from mini- or mainframe computer environments in older languages such as FORTRAN is often difficult to support in its present form or to translate into newer languages such as C. Microsoft solves this problem by allowing code written in Microsoft C, FORTRAN, and Pascal compilers to be linked freely within single programs if certain conventions are met.

"LANGUAGE LEARNING TOOLS"
Mallozzi, John S. 3:2 (Feb 1985):126-139.
The WATCOM Languages and Editor were created for the teaching of computer science. BASIC, Pascal, FORTRAN, COBOL, and APL are available. The languages are interpreters, making source code and data values available at any time. Good integration of the editor with the languages makes debugging easy. Sample program code in Pascal and BASIC and associated output are given. The languages are of uneven quality. COBOL and BASIC are the best implementations; FORTRAN the weakest.

LANGUAGES
"Anatomy and Construction of XB, The." 1:1 (Jul/Aug 1983):61-69, 159-161, .
"Approaching the Optimum Pascal." 4:7 (Jul 1986): 94-133.
"BASIC Development System." Product Watch. 4:6 (Jun 1986):196-198.
"BASIC To C." 2:4 (Oct 1984):117-140.
"C and the PC, Part 1." 1:3 (Nov/Dec 1983):110-130.
"C and the PC, Part 2." 1:4 (Jan 1984):91-140.
"COBOL Performs, Part 1." 3:6 (Jun 1985):58-83.
"COBOL Performs, Part 2." 3:7 (Jul 1985):111-133.
"COBOL Performs, Part 3." 3:8 (Aug 1985):107-136.
"Coding in a New Light." 4:9 (Sep 1986):84-99.
"Considering PL/1." 3:8 (Aug 1985):82-102.
"Creating a Standard LISP." 3:12 (Dec 1985):98-117.
"Drop-in Modules for C, Part 1." 3:6 (Jun 1985):100-127.
"Drop-In Modules for C, Part 2." 3:7 (Jul 1985):135-146.
"Drop-in Modules for C, Part 3." 3:8 (Aug 1985): 141-159.
"FORTH." 4:9 (Sep 1986):48-61.
"FORTH Programming." 4:10 (Oct 1986):133-143.
"FORTRAN Options." 3:10 (Oct 1985):149-169.
"FORTRAN Pitfalls." 1:2 (Sep/Oct 1983):150-156.
"GENSCREEN." Product Watch. 4:8 (Aug 1986):180-181.
"How to Choose a C Compiler." 1:1 (Jul/Aug 1983):78-91, 177-178.
"IBM's BASIC Programming Development System." 1:1 (Jul/Aug 1983):107-114.
"Inside Look at Microsoft BASIC on the IBM PC, An." 1:3 (Nov/Dec 1983):62-71.
"Language Integration." Product of the Month. 4:7 (Jul 1986):29.
"Language Learning Tools." 3:2 (Feb 1985):126-139.
"Let's C." Product Watch. 4:8 (Aug 1986):176-180.
"Life Is Simple with APL." 2:3 (Sep 1984):129-147.
"Limited Joys of Translated Software, The." 3:1 (Jan 1985):142-160.
"Macro Assembler Version 4.0." Product Watch. 4:7 (Jul 1986):169-172.
"MIX C." Product Watch. 4:9 (Sep 1986):191-193.
"Modula-2 Software Development System." Product Watch. 4:9 (Sep 1986):187-188.
"Modula-2/86 Base Language System." Product Watch. 4:9 (Sep 1986):188-190.
"Modular Constructions: Introducing Modula-2." 2:5 (Nov 1984):72-94.
"Modular Implementations." 2:6 (Dec 1984):154-182.
"Pascal Bugs." 3:5 (May 1985):199-208.
"Pascal Times Four." 2:1 (Jul 1984):58-72.
"Pascal Tools Review." 1:5 (Feb 1984):161-171.
"PASM, TASM, and CHASM." 3:12 (Dec 1985):161-169.
"PC Scheme." Product of the Month. 4:8 (Aug 1986):29.

"PC Speaks LISP, The." 1:7 (Apr 1984):112-148.
"Pocket APL." 3:7 (Jul 1985):90-98.
"Programming In Logic, Part 1." 3:12 (Dec 1985):82-95.
"Programming in Logic, Part 2." 4:1 (Jan 1986):145-155.
"RASMatazz without the Jazz." 2:2 (Aug 1984):120-150.
"Same Language, New Architecture." 3:10 (Oct 1985): 48-59.
"Six New Shapes of BASIC." 4:6 (Jun 1986):52-75.
"SNOBOL4." 3:1 (Jan 1985):32-43.
"State of C Interpreters, The." 4:5 (May 1986):153-163.
"State of C, The." 4:1 (Jan 1986):82-108.
"Systematic Programming in Edison." 1:2 (Sep/Oct 1983):84-88.
"Tools for the Pascal Programmer." 3:2 (Feb 1985): 102-111.
"Turbo Pascal." Product of the Month. 3:1 (Jan 1985):187.
"TurboRef." Product Watch. 4:3 (Mar 1986):179.
"12 Functional Modules of ANS COBOL, The." 1:7 (Apr 1984):76-82.
"Two APL Systems: A Comprehensive Review." 1:3 (Nov/Dec 1983):135-167.
"Visible Computer: 8088." Product of the Month. 3:9 (Sep 1985):25.
"Well-formatted Pascal, The." 2:4 (Oct 1984):22-33.
"Whitesmith's C Compiler." Product Watch. 4:6 (Jun 1986):200-205.

LARSON, RICHARD
"SNOBOL4." 3:1 (Jan 1985):32-43.

LATTICE C—Lifeboat Associates
"C and the PC, Part 1." 1:3 (Nov/Dec 1983):110-130.

LEE, EUI IN
"Fractals for the PC." 3:11 (Nov 1985):165-178.
"Recursive Curves." 3:4 (Apr 1985):171-174.

LEGAL ASPECTS
"Acknowledging Ownership." Legal Brief. 3:10 (Oct 1985):185-186.
"Alternative Licenses." Legal Brief. 3:7 (Jul 1985): 165-166.
"Basic Tools of U.S. Intellectual Property Law, The." Legal Brief. 1:3 (Nov/Dec 1983):213-220.
"Boilerplate Deal Killers." Legal Brief. 3:8 (Aug 1985):175-176.
"Business Non-Advice." Legal Brief. 1:7 (Apr 1984): 176-178.
"Case of the Missing Programmer, The." Legal Brief. 2:5 (Nov 1984):204-206.
"Compatibility Risk, The." Legal Brief. 3:4 (Apr 1985): 179-181.
"Compatibles and Copyrights." Legal Brief. 2:6 (Dec 1984):210-215.
"Computer Crime." Legal Brief. 2:3 (Sep 1984):188-190.
"Disputing the Rights to Custom-designed Software." Legal Brief. 2:1 (Jul 1984):185-186.
"Exporting Technology." Legal Brief. 3:6 (Jun 1985): 191-192.
"Federal Encouragement." Legal Brief. 4:1 (Jan 1986): 189-192.
"Go for Broker." Legal Brief. 2:2 (Aug 1984):181-184.
"IBM Software License, The." Legal Brief. 1:1 (Jul/Aug 1983):149-156.
"Ideal Guidebook, The." Legal Brief. 3:11 (Nov 1985): 195-199.
"Infringement by Compatibles." Legal Brief. 4:4 (Apr 1986):201-203.
"License to Sell." Legal Brief. 4:3 (Mar 1986):189-190.
"Memories Are Made of This." Legal Brief. 1:9 (Jun 1984):34-40.
"Mom & Pop Hi-Tech, Inc." Legal Brief. 2:4 (Oct 1984):197-201.
"Proprietary Rights and Software." Legal Brief. 3:12 (Dec 1985):189-191.
"Protecting the Corporate Flank." Legal Brief. 3:1 (Jan 1985):179-183.
"R&D Tax Incentives." Legal Brief. 3:5 (May 1985): 223-224.
"Sales Tax and Software: Nothing is Simple." Legal Brief. 1:4 (Jan 1984):196-198.
"Shrink-wrapped Enforcement." Legal Brief. 3:9 (Sep 1985):177-179.
"Shrink-wrapped Magazines." Legal Brief. 3:2 (Feb 1985):169-170.
"Software Goods or Services." Legal Brief. 4:5 (May 1986):207-208.
"Sony Versus Universal Studios: So What." Legal Brief. 1:8 (May 1984):197-201.
"Taxes by the PC." Legal Brief. 1:6 (Mar 1984):186-192.
"Taxing Software." Legal Brief. 4:8 (Aug 1986):185-186.
"Tort of Copy Protection, The." Legal Brief. 3:3 (Mar 1985):177-180.
"Total Solution, The." Legal Brief. 4:2 (Feb 1986): 193-194.
"Virtues of Patience, The." Expert Consultant. 4:10 (Oct 1986):199-200.
"Whitesmith's Ltd. Fighting the Pirates of Software." Legal Brief. 1:2 (Sep/Oct 1983):205-209.

LESSER, MURRAY
"MORE Without Redirection." Tech Notebook. 2:4 (Oct 1984):148.
"Safe Landing for Hard Disks." 3:12 (Dec 1985):147-157.

"LET'S C"
Franz, Marty. Product Watch. 4:8 (Aug 1986):176-180.
Mark Williams' Let's C is a subset of the company's C Programming System, designed for novice programmers and for small C projects. Let's C is limited to the small code model, but it implements the full C language standard with extensions. It includes a full-screen editor in source form. Tables show compiler specifications, features, documentation quality, and benchmark test results.

LETHER, FRANK G.
"Curves Made Simple." 4:1 (Jan 1986):159-170.
"Solving Cubic Equations." Tech Notebook. 3:5 (May 1985):42.

LEVARO, RICHARD A.
"Accessing DOS from Pascal." Tech Notebook. 1:2 (Sep/Oct 1983):83.

LEVEL II COBOL—Micro Focus, Inc.
"12 Functional Modules of ANS COBOL, The." 1:7 (Apr 1984):76-82.

LEVY, DOV, TOM WOTEKI, ALAN FRIEDEN, THOR BESTUL, and ROBERT STINE
"Modular Constructions." 2:5 (Nov 1984):72-94.
"Modular Implementations." 2:6 (Dec 1984):154-182.

"LICENSE TO SELL"
Oppenheimer, Max Stul. Legal Brief. 4:3 (Mar 1986): 189-190.
After years of reviewing software license agreements, the author reexamines the license agreement, focusing on how a publisher might evalute the pros and cons of such an agreement for the sale of software. Software license agreements seek to limit warranties, limit the publisher's liability, apply state law to the enforcement of the license, and control distribution of the software.

"LIFE IN THE FAST LANE"
Smith, Bob and Thomas Puckett. 1:7 (Apr 1984):62-74.
The IBM PC's 8253 timer chip makes it possible to time microsecond, rather than millisecond, intervals. Six counting modes are available. DOS and the PC BIOS support and use the 8253-5 timer. Assembly language listings are included. *Letter References—1:9 (Jun 1984):24; 2:2 (Aug 1984):14.*

"LIFE IS SIMPLE WITH APL"
Wynn, Pardner. 2:3 (Sep 1984):129-147.
APL is an interpreted programming language that is similar in concept to BASIC: both are line-oriented interpreters with built-in editors and debugging facilities. APL redefines the ASCII character set to provide a complete set of single-character operators for data manipulation. Data and programs are stored in a workspace that may be saved as a disk file. Life, the game as devised by J.H. Conway, is used as an exercise in APL program development. Figures summarize common APL operators and compare data handling by APL to that by BASIC. *Letter References—2:5 (Nov 1984):20.*

LIMA, ANTHONY K.
"FORTRAN Scientific Subroutine Library." Product Watch. 4:5 (May 1986):201.
"R:Bridge." Product Watch. 4:10 (Oct 1986):188-189.
"Seven Utilities for dBASE II." 1:9 (Jun 1984):80-112.

"LIMITED JOYS OF TRANSLATED SOFTWARE, THE"
Creane, James. 3:1 (Jan 1985):142-160.
The software translated from CP/M-80, which provided most of the IBM PC's base when the machine first appeared, was severely limited in many ways. The problems may be the result of the method of translation used by the software manufacturers. Two examples are given of a translation strategy that does not compromise quality for expediency: a word processing program similar in concept to WordStar; and a sort module for a database manager similar to dBASE II. A figure illustrates two code translation examples. Tables give elapsed times for various types of sorts. *Letter References—3:4 (Apr 1985): 19-21; 3:5 (May 1985):18.*

"LINKING ASSEMBLY SUBROUTINES TO BASIC PROGRAMS"
Brack, Frederick. 1:6 (Mar 1984):118-140.
Step-by-step instructions are given for incorporating MASM-produced machine language subroutines into BASIC. The assembly language subroutine is assembled with MASM. The .EXE file produced by MASM and LINK is loaded under DEBUG and modified for BASIC compatibility. Then BASIC is loaded (also under DEBUG) and tested with the subroutine. If all is well, the subroutine can be saved with BSAVE for easy loading with BLOAD later. A sample assembly language subroutine is listed. A figure details parameter passing with the stack.

"LINKING LIBRARY ROUTINES"
Mirecki, Ted. Tech Notebook. 4:4 (Apr 1986):49.
By separating the two segments of a resident program (the resident portion and the initialization code), users

can ensure that the two parts appear in the .COM file in the proper order. The technique is useful whenever the modules in an assembly language library must enter an executable program in a particular order. Listings provide assembly language templates for the two modules.

LINKUP SYSTEM COAX—Information Technologies
"Emulating the 3278." 4:2 (Feb 1986):48-63.

"LIVIN' IN THE D.O.S"
Fastie, Will. Directions. 3:12 (Dec 1985):9-10.
The IBM PC is mature enough that software developers should have developed good habits, but most have not. A program should determine the type of display through software. Many programs are written to interpret keystrokes into sequences of their own. When more than one of these programs is resident, unexpected results can occur. Problems exist with the way programs find their files and navigate between directories. Many are not designed to interface correctly with printers and some are so printer specific that they will work with only one type of printer. *Letter References—4:4 (Apr 1986):27.*

"LOAD AND GO: COM AND EXE FILES EXPLAINED"
Carter, Tom. 1:2 (Sep/Oct 1983):136-149.
The .COM and .EXE file formats are compared and the differences are explained. Listings show a memory dump program in .EXE format and the same program reorganized into .COM format. The .EXE format permits multiple segments for program, data, and a stack segment. The .COM format allows only a single segment (64KB) for program, data, and stack. Though less flexible, a .COM format file has the advantage of loading faster than an .EXE file. Furthermore, a .COM file may be loaded anywhere in memory while several restrictions limit .EXE file placement. Loading multiple .COM files into memory is much easier than multiple .EXE files. *Letter References—2:5 (Nov 1984):20-21.*

LOEN, LARRY W.
"Filters and Finite Machines." Programming Practices. 4:2 (Feb 1986):181-190.

"LONG LIVE THE 286"
Fastie, Will. Directions. 4:8 (Aug 1986):9-10.
IBM dominates the market with its PC and PC/XT, but it has a smaller share of the PC/AT market. Software developers and users looking for high performance are moving to 286-based machines more rapidly than the market at large. In light of these developments, *PC Tech Journal* plans a series covering non-IBM computers beginning in this issue with a review of the Compaq Deskpro 286. The editor discusses the differences between the 286- and the 386-based machine and urges less emphasis on 386 machines until the investment in 286 machines has been returned and more attention to expanding to the outer limits of 286 functionality.

LOUDERBACK, JOSEPH G.
"Rapid Screens in Turbo." Tech Notebook. 3:9 (Sep 1985):39.

LYNC—Norton-Lambert
"Controlling from Afar." 4:4 (Apr 1986):84-93.

M

M2M-PC COMPILER—Modula Research Institute
"Modular Implementations." 2:6 (Dec 1984):154-182.

"MACHINE SPECIFICS"
Forgeron, Ted. Programming Practices. 3:6 (Jun 1985):181-186.
An assembly language routine aids program portability by checking the machine identification byte and reporting the machine type—IBM PC, PC/XT, Portable PC, PC*jr*, PC/AT, or compatible. Another routine reports whether a numeric coprocessor is present. The programs are listed. *Letter References—3:9 (Sep 1985):16.*

MACRO ASSEMBLER 2.0—IBM
"Same Language, New Architecture." 3:10 (Oct 1985): 48-59.

"MACRO ASSEMBLER 4.0"
Quedens, Guy. Product Watch. 4:7 (Jul 1986):169-172.
Release 4.0 of Microsoft's Macro Assembler (MASM) is optimized and boasts new features, such as conditional error directives, .EXE file packing, and 11 new command line options. Performance is improved by about 300 percent, and larger source files can be assembled. Some minor bugs identified in version 3.01 remain, and a few new ones have been identified. MASM's MAKE utility has been improved greatly. Overall, the product is excellent and lacks only a reference for 8086 assembly language.

MADRON, THOMAS W.
"Searching with Soundex." 3:4 (Apr 1985):163-168.
"Statistical Correlation." 4:4 (Apr 1986):126-152.

MAESTRO AT—Tecmar, Inc.
"And the Winners Are." Product of the Month. 3:6 (Jun 1985):23.

MAGPEN—Lambda Associates
"dBASE II with Ambition." 1:9 (Jun 1984):181-191.

"MAINFRAME COMPATIBILITY, A DATA MANAGER WITH"
Casey, William. 3:11 (Nov 1985):124-144.
Information Builders, Inc.'s PC/FOCUS is a mainframe data management system squeezed into a PC package. PC/FOCUS includes data description and report definition languages; a terminal graphics subsystem; two related end-user languages; a file access and update facility; a maintenance language; and four front ends. Benchmarks remarks are listed in a table, and a sidebar provides an overview of the package. Figures show data hierarchies, sample file definitions and structures, and sample command procedures and reports.

"MAINFRAME STRATEGY"
Fastie, Will. Directions. 3:5 (May 1985):9-10.
IBM's release of its Series/1 operating system for the PC reveals a clever marketing strategy. New hardware provides a gateway from one PC network to another or to a mainframe. The new Series/1 thus makes available a low-cost entry into a Series/1 network and suggests that IBM hopes to use the popularity and established base of Series/1 to increase sales of not only ATs and PCs, but also more mainframes to support the Series/1 networks.

"MAKING CONNECTIONS"
Foard, Richard M. 3:5 (May 1985):47-51.
TURN-ON (Skyland Systems) is a power line controller that is activated by a telephone call to turn on a computer to receive communications. A PC can be configured with an AUTOEXEC.BAT file to load a communications program, answer the phone, and greet the caller. The device can be purchased with a communications program that includes file management, log-on control, and user screening. TURN-ON facilitates setting up remote file transfer systems. A photo of the system is included.

"MAKING OF AN XT, THE"
Hansen, Augie. 3:3 (Mar 1985):161-171.
A do-it-yourself guide is provided for converting an IBM PC into a hard-disk-based machine similar to the PC/XT. A hard-disk drive controller, IBM ROM BIOS upgrade, and higher capacity power supply are needed. A table lists specifications for the hard disk and power supply. A BASIC program is given to initialize a hard disk.

"MAKING YOUR SCREENS SPEAK FOR THEMSELVES"
Stephens, Jessie Gunn. 2:1 (Jul 1984):148-158.
A series of practical suggestions help programmers fashion an understandable user interface. Among the suggestions: keep program messages short and clear, explain each message in the user manual, and use consistent key sequences in all parts of the program.

MALLIN, JAY
"Three-dimensional Graphics for the IBM PC." 1:8 (May 1984):36-48.

MALLOZZI, JOHN S.
"Language Learning Tools." 3:2 (Feb 1985):126-139.

"MANAGING MEMORY"
Redmond, William J. 2:2 (Aug 1984):42-62.
An effort to cut power-up memory check time leads to an examination of memory management. False memory switch settings fool BIOS into checking less memory in less time. A program then determines how much memory actually exists and informs DOS. DOS 2.0's linked list of memory control blocks must be searched before free memory can be increased. A figure and table show the memory layout, and the program listing is included. *Letter References—2:6 (Dec 1984):16.*

MANSFIELD, VICTOR
"Encryption Methods, Part 1." 3:4 (Apr 1985):96-114.
"Encryption Methods, Part 2." 3:5 (May 1985):157-167.
"Encryption Software." 3:6 (Jun 1985):162-179.
"Scientific Graphics with the EGA." Programming Practices. 3:9 (Sep 1985):163-170.
"Ultralock." Product Watch. 4:3 (Mar 1986):179-180.

MARK WILLIAMS CI-C86—Mark Williams Company
"C and the PC, Part 2." 1:4 (Jan 1984):91-140.

MASS STORAGE
"Accelerating 2.1." Tech Notebook. 4:3 (Mar 1986):43.
"Backing Up the AT With FileSafe." 2:6 (Dec 1984): 150-153.
"Backup Utility Performance." 4:3 (Mar 1986):78-83.
"Bernoulli Box." Product Watch. 4:4 (Apr 1986):197-98.
"Bernoulli Box, The." 3:6 (Jun 1985):144-156.
"Breaking the 32MB Barrier." 4:5 (May 1986):94-108.
"Bubble Boards." 3:5 (May 1985):123-136.

"Diskette Cleaning." Tech Notebook. 1:3 (Nov/Dec 1983):85.
"Finding Disk Parameters." 4:5 (May 1986):112-150.
"Fixed-Disk Benchmarks." 2:5 (Nov 1984):64-70.
"Hardcard, The." Product of the Month. 4:2 (Feb 1986):31.
"Making of an XT, The." 3:3 (Mar 1985):161-171.
"Maverick Controller, The." 3:1 (Jan 1985):58-63.
"Moving up to Tape." 3:11 (Nov 1985):62-83.
"Nine-track Tape Systems." 4:8 (Aug 1986):94-108.
"Replacement Disks for the AT." 3:8 (Aug 1985):74-79.
"Safe Landing for Hard Disks." 3:12 (Dec 1985):147-157.
"Sleek Backup." Product of the Month. 3:10 (Oct 1985):31.
"Storage Expansion for the AT." 4:2 (Feb 1986):147-150.
"Storage on a Card." 4:2 (Feb 1986):139-144.
"TakeTwo." Product Watch. 4:6 (Jun 1986):198-200.
"Ten By Ten." 2:5 (Nov 1984): 52-63.
"Testing 1,2,3,4,5." 3:5 (May 1985):142-152.
"Third Drive, The." 3:6 (Jun 1985):47-55.
"Upgrading a PC to an "Xtra T"." 1:5 (Feb 1984):75-82.

MASTERFLIGHT—Kamerman Labs
"Moving up to Tape." 3:11 (Nov 1985):62-83.

MASTERGRAPHICS ADAPTER—Micrographics Technology
"Four Multifunction Display Adapters." 1:4 (Jan 1984): 32-43.

"MATCHING REGULAR EXPRESSIONS"
Forrest, Jon. Programming Practices. 4:5 (May 1986):191-199.
The regular expression syntax can be used to find a specified string in a given block of text. The syntax can be used even with complex search conditions. The regular expression algorithm requires a two-phase solution: first, the search conditions are compiled into an internal matching template; second, this template is compared to the text to be searched and any matches are printed. Tables show the proper syntax for sample search patterns. Listings provide Turbo Pascal programs that implement the syntax as a DOS filter similar to the DOS FIND command. *Letter References—4:8 (Aug 1986):24.*

"MATHEMATICAL MODELING WITH TUTSIM"
Murray, William H. 2:1 (Jul 1984):40-55.
Applied i's TUTSIM is a mathematical modeling software package that simulates the dynamics of systems. The program produces block diagrams of variations in a system. Modeling parameters may be entered and changed. Although documentation is poor and the graphics could be improved, the program is judged to be good. Tables list TUTSIM model blocks and commands. Photos show screen displays of the program's output.

MATHER, MICHAEL
"IBM BASIC and the Storage of Single-precision Variables." 1:7 (Apr 1984):86-92.

"MAVERICK CONTROLLER, THE"
Anderson, Julie A. 3:1 (Jan 1985):58-63.
The Maverick SMD PC-80 Hard-Disk Controller, which uses standard storage module drive (SMD) techniques, is reviewed. The SMD interface allows high-capacity storage on hard disk. Advantages include low power usage, 2.5MB-per-second data transfer rates, variable sector interleaving, 11-bit error checking, bad track remapping, and overlap seeks. Tables show benchmark tests compared with other types of controller technology. The Maverick is recommended for its speed and increased storage capacity. *Letter References—3:5 (May 1985):14.*

MAVERICK SMD PC-80—Interphase Corp.
"Maverick Controller, The." 3:1 (Jan 1985):58-63.

MAXWELL 1200PC—Racal-Vadic
"Communicating from Within." 3:9 (Sep 1985):60-77.

MAYNSTREAM 60—Maynard Electronics
"Moving up to Tape." 3:11 (Nov 1985):62-83.

MBM-502A—Advanced Digital Information Corp.
"Bubble Boards." 3:5 (May 1985):123-136.

MBM-504 BUBBLE BOARD—Advanced Digital Information Corp.
"Bubble Boards." 3:5 (May 1985):123-136.

MBP COBOL—mbp Software and Systems Technology
"COBOL Performs, Part 3." 3:8 (Aug 1985):107-136.
"12 Functional Modules of ANS COBOL, The." 1:7 (Apr 1984):76-82.

MCCANN, SCOTT
"Using a Switch-type Joystick on the IBM PC." Tech Notebook. 1:8 (May 1984):195.

MCNAMEE, THOMAS
"Screen Composure." 3:4 (Apr 1985):149-159.

"MECHANICAL CAD"
Wright, Victor E. 4:6 (Jun 1986):80-95.
CADKEY from Micro Control Systems is a powerful three-dimensional microcomputer CAD package that also allows the entry of one- and two-dimensional objects in arbitary planes. It has the standard two-dimensional drawing and editing features but lacks some of the three-dimensional primitives, such as cubes, spheres, and cylinders. It provides both DXF and IGES file translation and a macro facility. Photos show sample screens produced by CADKEY. A figure shows a printer plot. *Letter References—4:9 (Sep 1986):22.*

MEGA—American Mitac Corp.
"EGA Spectrum, The, Part 1." 4:10 (Oct 1986):80-86.

MEGABASIC—American Planning Corp.
"Six New Shapes of BASIC." 4:6 (Jun 1986):52-75.

MEGAFLIGHT—Kamerman Labs
"Ten By Ten." 2:5 (Nov 1984):52-63.

MEGAPLUS—AST Research, Inc.
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

"MEMORIES ARE MADE OF THIS"
Oppenheimer, Max Stul. Legal Brief. 1:9 (Jun 1984): 34-40.
Apple Computer's suit against Franklin Computer, which set a precedent in computer law, is discussed. Apple sued Franklin for creating an operating system that infringed upon Apple's copyrighted system. Although the case was settled out of court, and all avenues of appeal were not exhausted, the last decision recorded in the case declared source and object code copyrightable.

MEMORY MINDER—J&M Systems, Ltd.
"Testing 1, 2, 3, 4, 5." 3:5 (May 1985):142-152.

"MEMORY SIDECARS"
Hansen, Augie. 3:2 (Feb 1985):54-63.
Three memory expansion attachments for the IBM PC*jr* are evaluated. The PC*jr* 128KB Memory Expansion Attachment and optional Power Expansion Attachment provide additional memory and software to create a RAM disk and increased video memory for high-resolution graphics. Tecmar's *jr*Wave may be expanded with 16KB or 256KB chips. Tecmar's *jr* Captain with Treasure Chest software provides a clock, parallel printer port, and 128KB of memory. Photos show the products; figures and tables describe memory allocation for graphics.

METAFILE—Metafile Information Systems, Inc.
"Synthesizes Text and Data, A Data Manager that." 4:7 (Jul 1986):142-164.

"METAWINDOW"
Duntemann, Jeff. Product of the Month. 3:7 (Jul 1985):23.
METAWINDOW from Metagraphics Software is a graphics utility library that provides support for most of the major graphics cards and can be called from LINK-compatible language processors and Turbo Pascal. METAWINDOW can determine the particular graphics hardware that is installed and reconfigure itself to support that hardware without recompiling or relinking.

METAWINDOW—Metagraphics Software Corp.
"METAWINDOW." Product of the Month. 3:7 (Jul 1985):23.

METZGER, ROBERT
"Inside Look at Microsoft BASIC on the IBM PC, An." 1:3 (Nov/Dec 1983):62-71.

"MICE ARE NICE"
Fastie, Will. Directions. 2:2 (Aug 1984):5-6.
Although the computer mouse was invented almost 20 years ago, the introduction of the Apple Macintosh and the MacPaint program have brought the mouse into the public eye. Many argue that the mouse is an effective user input device for almost any task. However, the mouse is truly useful for only two types of computer operations: graphics applications and marking. Mice require hand-eye coordination to operate and are not effective devices for selecting operations such as those used in pop-up menus. Performance and responsiveness are important for general acceptance of mice as computer input devices. *Letter References—2:5 (Nov 1984): p. 20.*

MICRO FOCUS LEVEL II COBOL—Micro Focus
"COBOL Performs, Part 2." 3:7 (Jul 1985):111-133.

MICRO FOCUS PROFESSIONAL COBOL—Micro Focus
"COBOL Performs, Part 3." 3:8 (Aug 1985):107-136.

MICRO-CAP—Spectrum Software
"Drawing and Analyzing Circuits with Micro-Cap." 1:6 (Mar 1984):88-102.

MICRO-LOGIC—Spectrum Software
"Digital Designs." 3:3 (Mar 1985):112-121.

MICRO-PROLOG—Logic Programming Associates
"Programming in Logic, Part 2." 4:1 (Jan 1986):145-155.

MICRO/SPF—Phaser Systems, Inc.
"In the ISPF Tradition." 4:3 (Mar 1986):113-138.

MICROCICS—Unicorn Systems
"Personal CICS." 3:12 (Dec 1985):171-178.

MICROLINK—U.S. Robotics Inc.
"Communicating from Within." 3:9 (Sep 1985):60-77.

MICROSOFT BASIC—Microsoft Corp.
"Inside Look at Microsoft BASIC on the IBM PC, An." 1:3 (Nov/Dec 1983):62-71.

MICROSOFT C—Microsoft Corp.
"C and the PC, Part 1." 1:3 (Nov/Dec 1983):110-130.
"Language Integration." Product of the Month. 4:7 (Jul 1986):29.
"State of C, The." 4:1 (Jan 1986):82-108.

MICROSOFT COBOL—Microsoft Corp.
"COBOL Performs, Part 2." 3:7 (Jul 1985):111-133.

MICROSOFT FORTRAN—Microsoft Corp.
"FORTRAN Options." 3:10 (Oct 1985):149-169.
"Language Integration." Product of the Month. 4:7 (Jul 1986):29.

"MICROSOFT MOUSE"
Duntemann, Jeff. Product Watch. 4:3 (Mar 1986):186.
Microsoft has completely redesigned both the hardware and software of its mouse. The body of the mouse is shaped more ergonomically to fit the user's hand. The driver software resolution has been increased from 100 points per inch to 200. The paint program bundled with the mouse, Z-Soft's PC Paintbrush, also has been greatly improved. *Letter References—4:7 (Jul 1986):18.*

MICROSOFT MOUSE—Microsoft Corp.
"Microsoft Mouse." Product Watch. 4:3 (Mar 1986):186.
"Tale of Two Mice, A." 1:7 (Apr 1984):150-172.

MICROSOFT PASCAL—Microsoft Corp.
"Approaching the Optimum Pascal." 4:7 (Jul 1986):94-133.
"Language Integration." Product of the Month. 4:7 (Jul 1986):29.
"Pascal Times Four." 2:1 (Jul 1984):58-72.

"MICROSOFT RE-EMERGES"
Fastie, Will. Directions. 3:4 (Apr 1985):9-10.
Microsoft's future looks bright. IBM markets Microsoft's XENIX-286 as the de facto standard operating system for the AT. MS-DOS continues to have a promising future. Windows, Microsoft's new multitasking supervisor, also enhances the status of MS-DOS and of Microsoft.

MILLER, ERIC M.
"Digitizing Analog Data." 4:5 (May 1986):52-71.
"Elusive Acquisition." Tech Notebook. 4:3 (Mar 1986):46.
"RTDs and Thermocouples." Tech Notebook. 4:6 (Jun 1986):47.

"MINI-PRINT"
Swan, Tom. Product Watch. 4:5 (May 1986):203-205.
Zebra Systems' MINI-PRINT is designed to print up to six times the normal capacity of type on an 8½-by-11-inch page. MINI-PRINT controls the print head pins of supported matrix printers to produce a supercompressed font. To be used with MINI-PRINT, a printer must interpret ESC 3 and ESC L commands in the same manner as they are interpreted by IBM graphics printers.

MINNESOTA SNOBOL4—Berstis International
"SNOBOL4." 3:1 (Jan 1985):32-43.

MIRECKI, TED
"Ascent of DOS, The." 4:10 (Oct 1986):92-104.
"Bona Fide Bug, A." Tech Notebook. 3:5 (May 1985):41.
"Breakpoints in BIOS." Tech Notebook. 3:9 (Sep 1985):35.
"COBOL Performs, Part 1." 3:6 (Jun 1985):58-83.
"COBOL Performs, Part 2." 3:7 (Jul 1985):111-133.
"COBOL Performs, Part 3." 3:8 (Aug 1985):107-136.
"Coding in a New Light." 4:9 (Sep 1986):84-99.
"Custom Commands." Tech Notebook. 3:3 (Mar 1985):37.
"Dipping into Directories." 3:2 (Feb 1985):67-77.
"Expandable Memory." 4:2 (Feb 1986):66-83.
"Keyboard Scan Codes." Tech Notebook. 3:6 (Jun 1985):40.
"Linking Library Routines." Tech Notebook. 4:4 (Apr 1986):49.
"PASM, TASM, and CHASM." 3:12 (Dec 1985):161-169.
"QISort." Product Watch. 4:5 (May 1986):201-203.
"Replacing RENAME." Tech Notebook. 3:4 (Apr 1985):41.
"Same Language, New Architecture." 3:10 (Oct 1985):48-59.
"Self-installing Software." Tech Notebook. 3:11 (Nov 1985):55.
"Six New Shapes of BASIC." 4:6 (Jun 1986):52-75.
"Tracing Expanded Memory." Tech Notebook. 4:2 (Feb 1986):45.
"VDISK on Command." Tech Notebook. 4:1 (Jan 1986):43.

MITCHELL, STANLEY
"Building Device Drivers." 3:5 (May 1985):76-95.
"Command Line Redirection." Tech Notebook. 4:1 (Jan 1986):44.
"DSD87." Product Watch. 4:10 (Oct 1986):183-185.

"MIX C"
Franz, Marty. Product Watch. 4:9 (Sep 1986):191-193.
MIX C from MIX Software is a full implementation of the C language. Its object format is proprietary, preventing use of DOS LINK; however, the linker can generate overlays to allow the user to run large programs as .COM files. Generated code runs as much as ten times slower than programs produced by Microsoft C. Overall, the slow code speed and general quirkiness of this product make it unsuitable for professional software development. Tables list compiler specifications, functions, documentation quality, and benchmark test results.

"MIXING SYSTEMS COMPONENTS"
Goldberg, Morton. 1:7 (Apr 1984):106-110.
Printing graphics screens on a Star Micronics Gemini-10 dot-matrix printer via DOS 2.0's GRAPHICS.COM utility produces images distorted by an overly large line feed following each print-head scan. A DEBUG patch is given that allows GRAPHICS.COM to work with the Gemini-10 printer. *Letter References—2:1 (Jul 1984):14.*

MODEL 552 DATA LIBRARY—Advanced Digital Information Corp.
"Moving up to Tape." 3:11 (Nov 1985):62-83.

MODEL 1012—Innovative Data Technology
"Nine-track Tape Systems." 4:8 (Aug 1986):94-108.

MODEL 1052—Overland Data, Inc.
"Nine-track Tape Systems." 4:8 (Aug 1986):94-108.

MODEL 2000 PC—Digi-Data Corp.
"Nine-track Tape Systems." 4:8 (Aug 1986):94-108.

MODEL 8820—Flagstaff Engineering
"Nine-track Tape Systems." 4:8 (Aug 1986):94-108.

"MODEMS DEMYSTIFIED"
Schwaderer, W. David 2:1 (Jul 1984):73-88.
This excerpt from Schwaderer's book, *Digital Communications Programming on the IBM PC,* explains the use and technology of modems. A modem makes a microcomputer act like Data Terminal Equipment (DTE). Figures feature the Bell-103, -202 -212A and Racal-Vadic 3400 protocols and illustrate modulation techniques.

MODULA-2/86—Logitech, Inc.
"Modular Implementations." 2:6 (Dec 1984):154-182.

"MODULA-2/86 BASE LANGUAGE SYSTEM"
Cockerham, John T. Product Watch. 4:9 (Sep 1986):188-190.
Release 2.0 of the Logitech Modula-2 Base Language System (BLS) includes a four-pass compiler, a linker, a text editor, and runtime libraries in object form. The compiler and linker can be invoked from within the multifile, multiwindow editor. Although BLS generates 8086 native code, it does so in a proprietary format that requires a loader module (M2) to load and execute linked object code. Code performance is good—better than that of Turbo Pascal but not on par with Microsoft Pascal. A table lists benchmark test results.

MODULA-2 COMPILER—Volition Systems
"Modular Implementations." 2:6 (Dec 1984):154-182.

"MODULA-2 SOFTWARE DEVELOPMENT SYSTEM"
Brecheen, Cole and Charles Bradford. Product Watch. 4:9 (Sep 1986):187-188.
Interface Technologies Corp.'s Modula-2 Software Development System (M2SDS) is an environment-based, native-code Modula-2 compiler with a built-in syntax-directed editor. While early releases of the product were so bug-ridden as to be virtually unusable, the current release 2.0cv is an acceptable product. Code performance is good, equal to Logitech Modula-2 and faster than Borland's Turbo Pascal. Program size is limited only by available memory. M2SDS's user interface is excellent. A table lists benchmark test results.

"MODULAR CONSTRUCTIONS"
Woteki, Tom, Alan Freiden, Dov Levy, Thor Bestul, and Robert Stine. 2:5 (Nov 1984):72-94.
Modula-2 is a programming language designed by Niklaus Wirth and derived from Pascal. It is a strongly typed language that emphasizes modular programming. Mod-

ules, which facilitate software maintenance, may be compiled individually and hide details of data representatives from other modules. Examples of Modula-2 statement syntax and module structure are given. Sample Modula-2 program listings are provided.

"MODULAR IMPLEMENTATIONS"
Woteki, Tom, Alan Freiden, Dov Levy, Thor Bestul, and Robert Stine. 2:6 (Dec 1984):154-182.
Three Modula-2 compilers—Modula-2/86 (Logitech), Modula-2 Compiler (Volition Systems), and M2M-PC (Modula Research Institute)—are reviewed. The products are judged on high-level features, low-level access, native code generation, integration with DOS, and provided library modules. Logitech's Modula 2/86 is the only native code compiler of the three, and it scored highest in the overall ratings. Volition System's product generates p-code and runs well only under the UCSD p-System. The MRI product is slow and not well integrated with DOS. A table of performance benchmarks is provided.

"MOM & POP HI-TECH, INC."
Oppenheimer, Max Stul. Legal Brief. 2:4 (Oct 1984): 197-201.
Guidelines are given for creating a corporation. Incorporating may accomplish several objectives: limiting personal liability (although this may also be established through a limited partnership); easing the transfer of stock; centralizing and simplifying management; and obtaining tax advantages.

"MORE PORTS"
Wright, Jack. Tech Notebook. 3:3 (Mar 1985):32.
Program listings in BASIC provide a way to initialize extra serial ports on the IBM PC and switch over to them. The sharing method that is described permits the addition of two ports using two unused I/O addresses: one shared by COM1 and the other by COM2. *Letter References—3:6 (Jun 1985):19.*

"MORE WITHOUT REDIRECTION"
Lesser, Murray. Tech Notebook. 2:4 (Oct 1984):148.
The MORE command is a useful substitute for the DOS TYPE command. MORE allows users to keep a displayed ASCII file from scrolling off the screen, but it does not function properly unless the user inserts the redirectional symbol. This problem is solved by using DEBUG to patch MORE.COM with the source code presented.

MORGAN, CHRISTOPHER L.
"Assembly Language Routines to Control Sounds on the IBM PC." 1:7 (Apr 1984):95-102.
"Plotting, Drawing, and Filling." 1:6 (Mar 1984):38-58.
"Strings." 2:3 (Sep 1984):111-126.

MOUSE MENU—Microsoft Corp.
"Pop (Up) Goes the Mouse Menu." 2:2 (Aug 1984): 74-84.

"MOVING UP TO TAPE"
Armbrust, Steven and Ted Forgeron. 3:11 (Nov 1985): 62-83.
Quarter-inch cartridge tape backup systems are important insurance against hard-disk failures. This article analyzes the reliability, speed, and software of the following tape drive units: QIC-60 (Tecmar); Streaming Tape (Sigma Designs); Masterflight (Kamerman Labs); FloppyTape (Cipher); TG-4060 (Tallgrass); MT25 (MicroSystems); QIC-File (Sysgen); Model 552 Data Library (Adic); Maynstream 60 (Maynard Electronics); Constellation 60 ETP (Express Systems/Orion); Excel (Everex); FileSafe (Mountain); TeamMate T60 (Data Technology); and PC-QICTAPE (Alloy). A figure shows the PC/T format, and tables compare tape drive features, performance tests, and overall recommendations. *Letter References—4:2 (Feb 1986):15; 4:4 (Apr 1986):21.*

MPROLOG—Logicware, Inc.
"Programming in Logic, Part 2." 4:1 (Jan 1986):145-155.

MT25—Microsystems
"Moving up to Tape." 3:11 (Nov 1985):62-83.

MULISP/MUSTAR-82—Soft Warehouse
"PC Speaks LISP, The." 1:7 (Apr 1984):112-148.

MULTICARD—Vista Computer
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

MULTIDISPLAY ADAPTER—Paradise Systems
"Four Multifunction Display Adapters." 1:4 (Jan 1984): 32-43.

"MULTIFUNCTION BOARDS FOR THE PC"
Gleckler, Arthur A. 1:4 (Jan 1984):66-73.
A buyer's guide covering 16 multifunction boards for the IBM PC is presented. The boards are: Megaplus and Six-PakPlus (AST Research), PCM-PSC (Computer Peripherals), IDEAboard (IDEAssociates), Multipak (Indigo Data Systems), Busboard (LNW Computers), SandStar Series Memory Card (Maynard), Time Spectrum (Persyst), Addram Elite (Profit Systems), Quadboard (Quadram), RAM+3 (Seattle), SDI-ESC (Sigma Designs), Super RIO and RIO Plus (STB Systems), 1st Mate (Tecmar), and Multicard (Vista Computer). A table compares their features and a directory lists their manufacturers. *Letter References—1:6 (Mar 1984):22.*

MULTILINK—The Software Link, Inc.
"Multitalented." 2:4 (Oct 1984):64-74.

MULTILINK ADVANCED—The Software Link, Inc.
"Concurrent Environments." 3:12 (Dec 1985):52-65.

MULTIPAK—Indigo Data Systems
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

"MULTITALENTED"
Roskos, J. Eric. 2:4 (Oct 1984):64-74.
Multilink from The Software Link, Inc. adds multitasking capabilities to DOS. It installs itself between the operating system and the software programs running on the PC. It requires at least 128KB of memory to work effectively. Multilink's performance is not flawless because the PC was not designed to run as a multitasking machine. A sidebar on debugging Multilink and listings showing sample Multilink code are included. *Letter References—2:6 (Dec 1984):30-32.*

"MULTITASKING METHODS"
Foard, Richard M. 4:3 (Mar 1986):49-61.
This first in a series of articles about multitasking operating systems that can be used in realtime applications introduces the reader to the basics of multitasking. TJ/OS (Tech Journal co-Operating System), a multitasking toolkit assembled by the author, is examined as an example of multitasking in its simplest form. It is designed to be used with version 3.0 of the Microsoft C compiler. CX/PC from INTRSoft Company, a commercially available package, also is reviewed. Both TJ/OS and CX/PC embody a non-preemptive task scheduling discipline. CX/PC is suitable for small, PC-based instrumentation and control systems. *Letter References—4:5 (May 1986):21-22.*

MURRAY, WILLIAM H.
"Data Acquisition." 3:7 (Jul 1985):101-108.
"Digital Designs." 3:3 (Mar 1985):112-121.
"Drawing and Analyzing Circuits with Micro-Cap." 1:6 (Mar 1984):88-102.
"Drawing Circuits." 3:5 (May 1985):113-118.
"Mathematical Modeling with TUTSIM." 2:1 (Jul 1984): 40-55.
"Poor Richard's Converter: From A to D." 2:3 (Sep 1984):30-41.

MURRAY, WILLIAM H. and CHRIS H. PAPPAS
"Simple Circuits, Better Circuits." 1:5 (Feb 1984): 118-156.

MYLSTAR SYMBOLIC DEBUGGING PROGRAM—Mylstar Electronics, Inc.
"Entomological Explorations." 3:1 (Jan 1985):88-105.

MYSTIC PASCAL—Mystic Canyon Software
"Approaching the Optimum Pascal." 4:7 (Jul 1986): 94-133.

N

NADDOR, ELIEZER
"After Bubblesort." 1:7 (Apr 1984):40-59.
"Fields, Items, and Systems." 2:5 (Nov 1984):117-131.
"Structured BASIC Programs." 2:1 (Jul 1984):161-182.
"UCL: A User Command Language." 1:3 (Nov/Dec 1983):44-58.

"NAME, RANK, AND SERIAL NUMBER"
Glinert-Cole, Susan. Tech Notebook. 1:8 (May 1984):192.
A short BASIC program distinguishes an IBM PC from an XT or PC*jr*. It also prints the date of creation of the ROM BIOS, the BIOS copyright date, and IBM's part number.

"NAME THAT VOLUME"
Koehler, Ernest S. Tech Notebook. 3:9 (Sep 1985):37.
DOS 3.0 allows users to write a volume label after a disk is formatted, but under DOS 2.x, users can write the label only during disk formatting. The VOLABEL program corrects this and allows users working under DOS 2.x to define volume labels without reformatting the disk. The assembly language program is provided.

"NESTED BATCH FILES"
Garbers, Jeff. Tech Notebook. 1:3 (Nov/Dec 1983):223.
A DOS 2.0 batch file cannot directly invoke another batch file without relinquishing control of the system; however, control can be retained if the second batch file is invoked using COMMAND/C. Some examples of nested batch files are provided. *Letter References—1:6 (Mar 1984):26; 2:4 (Oct 1984):15-21.*

NETWARE—Novell, Inc.
"NetWare in Control." 3:11 (Nov 1985):102-119.

"NETWARE IN CONTROL"
Krumrey, Art. 3:11 (Nov 1985):102-119.
Novell's NetWare is a PC network operating system that runs on 24 different makes of local area network (LAN) hardware. The software is designed in a layered structure so that it may be converted to work with a variety of network hardware. NetWare is a true file server in that directories or files on the server's hard disk are mapped to network drives, like virtual diskettes. All versions of NetWare are compatible with DOS 3.1 definitions for interrupt 21H operations; the NetWare/PCN version runs on the IBM PC Network. Photos show NetWare menus and directories; tables give program interfaces and commands; and figures diagram various networks.

"NETWORK FOR ALL REASONS, A"
Glinert-Cole, Susan. 2:6 (Dec 1984):90-106.
The IBM PC Network is reviewed. The product can be used by the IBM PC, PC/XT, PC Portable, and PC/AT. Each PC on the network requires 128KB, one double-sided disk drive, an 80-column display, and DOS 3.1. Users can share hard disks, diskettes, files, printers, and modems across the network. The basic components, network hardware, and network software are examined, with five figures illustrating network components. Prices for the PC Network are included.

"NEW TWIST ON NETWORKING, A"
Glinert-Cole, Susan. 1:8 (May 1984):168-185.
X-NET is a low-cost network featuring file server emulation without a dedicated file server for use on an IBM PC or PC/XT. It is well designed, easy to set up, and uses inexpensive twisted pair wire to link the network together. An electronic mail package is available. Figures illustrate X-NET network topology and the distributed file system, and a table gives benchmarks with PC-DOS 2.0.

"NEW WEAPONS FOR FIGHTING SOFTWARE PIRACY"
Frank, Werner L. 1:5 (Feb 1984):71-74.
The Association of Data Processing Service Organizations (ADAPSO) is working to find ways to stop software piracy. Cost, ease of installation, effect on the computer system, and degree of protection must be considered. Prolok, a promising, low-cost method of software protection, encrypts a program and copies it onto a Prolok diskette with an identifying fingerprint. The Prolok protection scheme requires that the Prolok diskette be inserted into the diskette drive whenever the protected program is being executed. Prolok is available for CP/M, MS-DOS, and Apple-DOS operating systems. It does not provide a suitable solution for LANs. *Letter References—1:9 (Jun 1984):16-21; 2:1 (Jul 1984):26.*

"NIBBLER, THE"
Swan, Tom. Product Watch. 4:7 (Jul 1986):168-169.
The Nibbler, a programmers toolkit from Tachyon Systems, Inc., offers several disk utility operations. It can display sorted disk directories, copy files, change bytes, and collect memory and disk information into memory buffers. The program also can read and write disk sectors directly. Problems with The Nibbler include poor documentation and a tendency to hang the system when the Diskette Map command is used.

"NINE-TRACK TAPE SYSTEMS"
Addelson, Roger. 4:8 (Aug 1986):94-108.
Nine-track tape technology is summarized, and eight subsystems for the PC are reviewed: Q-TIP with PC-9 (Alloy Computer Products, Inc.); PCT-9S Tape Subsystem (Catamount Corp.); Tape Subsystem (Cipher Data Products, Inc.); 2000 PC (Digi-Data Corp.); Series MTM80-7000 (Emerald Systems Corp.); Model 8820 (Flagstaff Engineering); Model 1012 (Innovative Data Technology); and Model 1052 (Overland Data, Inc.). Transport speed is one of the few strong distinguishing characteristics among the systems reviewed. Figures show labeled and unlabeled tape formats. Tables list system features, controller specifications, and benchmark test results.

NISLEY, EDWARD
"Change in Command, A." 3:7 (Jul 1985):149-156.
"Spinning Your Own VDISK." 3:3 (Mar 1985):100-109.

NOLAND, JOHN C.
"GENSCREEN." Product Watch. 4:8 (Aug 1986):180-181.

"NONLINEAR LEAST-SQUARES FITTING"
Schreiner, Walter, Michael Kramer, Simon Krischer, and Yedidyah Langsam. 3:5 (May 1985):170-190.
A BASIC program fits a set of data points to a curve using the Marquart algorithm for least-squares fitting. The user supplies the data and a suggested function with a set of initial values for parameters. The program calculates the best value for the parameters consistent with the data, gives a statistical report of how good the fit is, and plots the curves to allow the user to compare data with the fitted function. The article provides a step-by-step outline with figures and tables for using the listed program. A compiled version of the program was tested and found to be on a par with a FORTRAN minicomputer version of the program. *Letter References—3:8 (Aug 1985):16-21; 3:10 (Oct 1985):24-26; 3:12 (Dec 1985):24.*

NORMAN, RICHARD
"Video Function Call Fix." Tech Notebook. 4:7 (Jul 1986):41.

NORTON, PETER
"Tinkering with DOS 2.0." Tech Notebook. 1:1 (Jul/Aug 1983):93.

NORTON UTILITIES, THE—Peter Norton Computing
"Norton Utilities, The." 1:1 (Jul/Aug 1983):70-77.

"NORTON UTILITIES, THE"
Glinert-Cole, Susan. 1:1 (Jul/Aug 1983):70-77.
Thoughtful design and good documentation distinguish the Norton Utilities, a collection of 14 utility programs. Half of them are simple routines useful in batch files. The others sort files, arrange directory entries to optimize access, and recover undamaged regions of a diskette. Four programs are included that manipulate disk files: FILEHIDE hides and reveals files; UNERASE can unerase a file; SECMOD allows the user to modify a file; and DISKLOOK provides information about diskette files.

O

".OBJ LESSONS"
Armbrust, Steven and Ted Forgeron. 3:10 (Oct 1985): 61-81.
The format of the Microsoft object module (or .OBJ file) determines the behavior of the linker and the symbol support of the debugger. All IBM PC compilers and assemblers translate programs into Microsoft .OBJ files, which contain records of as many as 15 different types. Tables show record types and fields, and memory dumps show the actual hexadecimal layout of the .OBJ file produced for a Microsoft Pascal program (listing included). A flow chart shows the linking process. Also discussed are debugging information and the Intel object module format, which is a superset of the Microsoft format.

"OBJECTS AND ATTRIBUTES"
Fastie, Will. Directions. 4:7 (Jul 1986):9-10.
Most computer files allow only a limited set of attributes to be assigned to them, but users should be able to assign any attributes they choose. SmartNotes addresses this need by allowing a user to "stick" an arbitrary note in a file that pops up when the file is examined. However, a more general facility is needed to attach symbolic attributes to objects associated with the desktop computer.

OC4000—Star Gate Technologies, Inc.
"Beyond COM2." 4:9 (Sep 1986):68-79.

OC8000—Star Gate Technologies, Inc.
"Beyond COM2." 4:9 (Sep 1986):68-79.

OKI 84P—OKIDATA
"Oki Dokey: from PC to Okidata 84." 2:3 (Sep 1984): 92-106.

"OKI DOKEY: FROM PC TO OKIDATA 84"
Garbers, Jeff. 2:3 (Sep 1984):92-106.
The Okidata Microline 84p printer can print the PC's line-drawing characters using codes different from those used by printers in the Epson family. X20KI.COM is a resident program that intercepts calls to IBM BIOS interrupt 17H parallel printer routines and translates appropriate characters from the Epson character set to the Okidata character set, allowing the Microline 84p to print line-drawing characters correctly. The assembly language program is listed. An accompanying sidebar regarding Okidata compatibility is included.

OLFE, MICHAEL
"dBASE II with Ambition." 1:9 (Jun 1984):181-191.

OMNINET—Corvus Systems, Inc.
"Omnium-Gatherum." 2:3 (Sep 1984):56-62.

OMNITERM2—Lindbergh Systems, Inc.
"High-tech Mimicry." 2:3 (Sep 1984):46-55.

"OMNIUM-GATHERUM"
Glinert-Cole, Susan and Julie A. Anderson. 2:3 (Sep 1984):56-62.
Omninet (Corvus Systems) is a Carrier Sense Multiple Access (CSMA) network using RS-422 twisted pair wire in a linear bus configuration. Omninet refers to the lower four protocol layers of the ISO/OSI protocol model. The higher levels are provided by the Constellation II software that, combined with Omninet, comprise the whole network system. A transporter card is required for each station. Stand-alone disk servers are available in various sizes ranging from a 5MB disk to a 45MB disk. Tables list benchmark tests and supported commands. Omninet integrates utility servers with mass storage backup.

"ON THE MATTER OF PERFORMANCE"
Fastie, Will. Directions. 1:2 (Sep/Oct 1983):10-15.
The IBM PC has been criticized for its slow speed. Proponents of the 68000 microprocessor correctly point out that it is significantly faster than the PC's 8088 processor. In addition, for some applications, a 4-MHz Z-80 runs faster than the 8088. Nonetheless, the PC is more than adequate for 95 percent of microcomputer applications. When shopping for a microcomptuer, users should remember that performance is more a function of software than hardware. They also should recognize the difference between programs with superior display speed and those with superior computing speed. *Letter References—1:5 (Feb 1984):22-26.*

1 DIR—Bourbaki, Inc.
"Shell Game, The." 1:3 (Nov/Dec 1983):30-41.

128KB MEMORY EXPANSION BOARD FOR THE AT—IBM
"Analyzing the Advanced Technology." 2:6 (Dec 1984): 40-56.

"ONWARD, FORTH"
Fastie, Will. Directions. 4:9 (Sep 1986):9-10.
Although FORTH often is perceived as esoteric, it has a definite place among microcomputer languages. FORTH applications are typically small, but their functionality is high. The language is popular for dedicated microprocessor applications. A sidebar contains an apology to Realia, Inc. for rating Realia COBOL "not recommended" in the August 1985 issue, because of its copy-protected status; *PC Tech Journal*'s opposition to software methods of copy protection notwithstanding, the rating is amended to "recommended." A second sidebar announces the debut of a new column called "Expert Consultant." A third sidebar announces *PC Tech Journal*'s relocation from Baltimore to Columbia, Maryland.

OPERATING SYSTEMS
"Ascent of DOS, The." 4:10 (Oct 1986):92-104.
"CCP/M-86." 1:6 (Mar 1984):64-76.
"Change in Command, A." 3:7 (Jul 1985):149-156.
"Concurrent Environments." 3:12 (Dec 1985):52-65.
"Concurrent PC-DOS." 3:3 (Mar 1985):45-54.
"Custom Commands." Tech Notebook. 3:3 (Mar 1985):37.
"Disarming DOS FORMAT." Tech Notebook. 2:1 (Jul 1984):32.
"DOS Shells Continued." 2:4 (Oct 1984):36-48.
"Dynamic Memory Management." Programming Practices. 4:10 (Oct 1986):173-181.
"File-name Extensions." Tech Notebook. 1:3 (Nov/Dec 1983):203.
"File-search Help for PC-DOS." 3:4 (Apr 1985):138-145.
"Fix for DOS Users with UNIX Habits, A." Tech Notebook. 2:2 (Aug 1984):73.
"Good Find, A." 3:10 (Oct 1985):85-91.
"IBM Diagnostic Tricks." Tech Notebook. 1:4 (Jan 1984):53.
"Irresistible DOS 3.0." 2:6 (Dec 1984):74-87.
"Keystroke Automation." 4:1 (Jan 1986):113-122.
"MORE Without Redirection." Tech Notebook. 2:4 (Oct 1984) :148.
"Multitalented." 2:4 (Oct 1984):64-74.
"Multitasking Methods." 4:3 (Mar 1986):49-61.
"Name That Volume." Tech Notebook. 3:9 (Sep 1985):37.
"Nested Batch Files." Tech Notebook. 1:3 (Nov/Dec 1983):223.
"Patching a Bug in DOS 2.1." 2:5 (Nov 1984):71.
"Patchwork." Tech Notebook. 2:2 (Aug 1984):113.
"PC Versions of iRMX." 4:6 (Jun 1986):126-150.
"PC/IX." 3:7 (Jul 1985):80-87.
"Portable Approach, The." 4:5 (May 1986):75-89.
"Preemptive Scheduling on DOS." 4:4 (Apr 1986): 98-122.
"Reflections of UNIX." 3:5 (May 1985):54-73.
"Replacing RENAME." Tech Notebook. 3:4 (Apr 1985):41.
"Shell Game, The." 1:3 (Nov/Dec 1983):30-41.
"System/34 for the Microcomputer." 3:5 (May 1985): 193-197.
"Tinkering with DOS 2.0." Tech Notebook. 1:1 (Jul/Aug 1983):93.
"Using DOS Loops." Tech Notebook. 4:4 (Apr 1986):50.
"VENIX: Setting UNIX Standards." 4:2 (Feb 1986): 153-159.
"Visible RAM Disk." Tech Notebook. 4:10 (Oct 1986):43.
"Where Am I?." Tech Notebook. 1:2 (Sep/Oct 1983):197.
"WindowDOS." Product Watch. 4:3 (Mar 1986):185-186.
"XENIX for the XT." 3:6 (Jun 1985):129-140.
"XENIX Lives." 2:6 (Dec 1984):114-115.
"XTREE." Product Watch. 4:7 (Jul 1986):167-168.

OPPENHEIMER, MAX STUL
"Acknowledging Ownership." Legal Brief. 3:10 (Oct 1985):185-186.
"Alternative Licenses." Legal Brief. 3:7 (Jul 1985): 165-166.
"Basic Tools of U.S. Intellectual Property Law, The." Legal Brief. 1:3 (Nov/Dec 1983):213-220.
"Boilerplate Deal Killers." Legal Brief. 3:8 (Aug 1985):175-176.
"Business Non-advice." Legal Brief. 1:7 (Apr 1984): 176-178.
"Case of the Missing Programmer, The." Legal Brief. 2:5 (Nov 1984):204-206.
"Compatibility Risk, The." Legal Brief. 3:4 (Apr 1985): 179-181.
"Compatibles and Copyrights." Legal Brief. 2:6 (Dec 1984):210-215.
"Computer Crime." Legal Brief. 2:3 (Sep 1984):188-190.
"Disputing the Rights to Custom-designed Software." Legal Brief. 2:1 (Jul 1984):185-186.
"Exporting Technology." Legal Brief. 3:6 (Jun 1985): 191-192.
"Federal Encouragement." Legal Brief. 4:1 (Jan 1986): 189-192.
"Go for Broker." Legal Brief. 2:2 (Aug 1984):18l-184.
"IBM Software License, The." Legal Brief. 1:1 (Jul/Aug 1983):149-156.
"Ideal Guidebook, The." Legal Brief. 3:11 (Nov 1985): 195-199.
"Infringement by Compatibles." Legal Brief. 4:4 (Apr 1986):201-203.
"License to Sell." Legal Brief. 4:3 (Mar 1986):189-190.
"Memories Are Made of This." Legal Brief. 1:9 (Jun 1984):34-40.
"Mom & Pop Hi-Tech, Inc." Legal Brief. 2:4 (Oct 1984):197-201.
"Proprietary Rights and Software." Legal Brief. 3:12 (Dec 1985):189-191.
"Protecting the Corporate Flank." Legal Brief. 3:1 (Jan 1985):179-183.
"R&D Tax Incentives." Legal Brief. 3:5 (May 1985): 223-224.
"Sales Tax and Software: Nothing is Simple." Legal Brief. 1:4 (Jan 1984):196-198.
"Shrink-wrapped Enforcement." Legal Brief. 3:9 (Sep 1985):177-179.
"Shrink-wrapped Magazines." Legal Brief. 3:2 (Feb 1985):169-170.
"Software Goods or Services." Legal Brief. 4:5 (May 1986):207-208.
"Sony Versus Universal Studios: So What." Legal Brief. 1:8 (May 1984):197-201.
"Taxes by the PC." Legal Brief. 1:6 (Mar 1984):186-192.
"Taxing Software." Legal Brief. 4:8 (Aug 1986):185-186.
"Tort of Copy Protection, The." Legal Brief. 3:3 (Mar 1985):177-180.
"Total Solution, The." Legal Brief. 4:2 (Feb 1986): 193-194.
"Virtues of Patience." Expert Column. 4:10 (Oct 1986):199-200.
"Whitesmith's Ltd. Fighting the Pirates of Software." Legal Brief. 1:2 (Sep/Oct 1983):205-209.

ORCHID MONOCHROME GRAPHICS ADAPTER—Orchid Technology
"Graphics on the IBM Monochrome Display." 1:6 (Mar 1984):142-153.

ORION—Express Systems
"Moving up to Tape." 3:11 (Nov 1985):62-83.

"OUT FROM THE SHADOW OF IBM"
Armbrust, Steven, Ted Forgeron, and Paul Pierce. 4:8 (Aug 1986):52-75.
This introduction to *PC Tech Journal*'s evaluation of IBM PC/AT compatibles describes the Evaluation Suite, which consists of several programs that: check the BIOS data area for the date, machine ID, and copyright statement; check the keyboard compatibility; check the instruction fetch time; check the RAM read and write times, wait state times for an IBM Color Graphics Adapter, ROM read, RAM read and write, and expanded memory, as well as the processor speeds and the video refresh time; check the performance and speed of the coprocessor; and test the hard disk. Listings provide code for all test programs.

P

"PACKING THE DATE AND TIME"
Finan, Patrick. 3:1 (Jan 1985):46-54.
A shift and mask algorithm packs the date and time into 16 bits to put a date and time stamp on data records. Pascal programs with listings demonstrate the technique. Figures show the binary numbers involved. Tables show packing and unpacking of binary date/time code. *Letter References—3:5 (May 1985):14; 3:8 (Aug 1985):24.*

"PAINTER'S ALGORITHM, THE"
Chandler, Richard and Gary Faulkner. 3:11 (Nov 1985):181-187.
The Painter's Algorithm is a means of plotting hidden lines in a three-dimensional graph. The elements of the graph are drawn in order from background to foreground. Some lines are hidden in the finished graph as a result of the rules of visual perspective. Figures show steps in the process. A listing provides a Pascal program that can be used to implement the algorithm.

New "WONDER" PLUS

The NEW STANDARD in the World of DOS "Shells"

FILE MANAGEMENT - "Power Beyond DOS"
1dir+ is the most powerful and flexible DOS utility available. Without customizing it at all, it gives you a set of tools that enable you to organize and manage your directories and files, beyond the limitations of DOS and other system utilities.

Its functions include all the necessary "standard" commands for copying, erasing, moving, renaming, viewing, editing, locating... files. **1dir+** also includes a Directory Tree making it easy to change, create or remove directories.

Regain wasted space by deleting ALL your BAK files in a single operation, or by finding and erasing duplicate copies of files in different directories. Back up and Restore directories by selecting them from the Directory Tree. The list goes on...

The "Faces" of **1dir+** gives you eight instantly available screens to display the information the way YOU want it. They range from the simple Menu Only Face, to the powerful Global Directory Face.

MENUING System - "Have it YOUR Way"
1dir+'s Menuing system enables you to customize YOUR system to suit your needs and applications. If you're a "power" user, the Menuing System Command Language, nicknamed MuSCLe, gives you the ability to program more powerful commands. (MuSCLe and its compiler are available for a nominal charge.)

VIEW / EDITOR - "Next Best Thing to a Word Processor"
1dir+'s powerful View / Editor enables you to view and / or edit files in ASCII, Extended ASCII and HEX modes. It includes block operations, string search capability variable speed bi-directional auto-scrolling, print options and more.

UNIQUE - "Customized Directory Displays"
The most unique thing about **1dir+** is its Directory Personality feature. Typically, directories include files that you don't need or want to see. The solution - Customize each of your directories with a Personality to show only the files you want, in the order that you want them and within a specified date range. Needless to say, these can easily be changed or disabled as the situation requires.

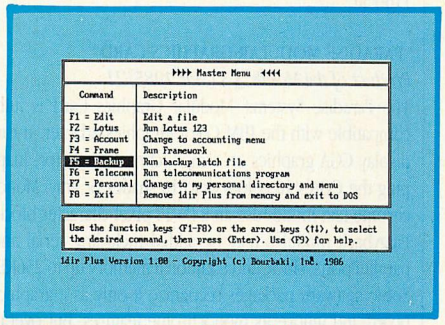
HELP System - "Making it All Easy"
Not only does **1dir+** provide instant access to context related and general system Help for all its commands, it also gives you the ability to develop your own comprehensive and instanly available Help for any commands that you create, using the Menuing System.

All this in one integrated package, **1dir+**.

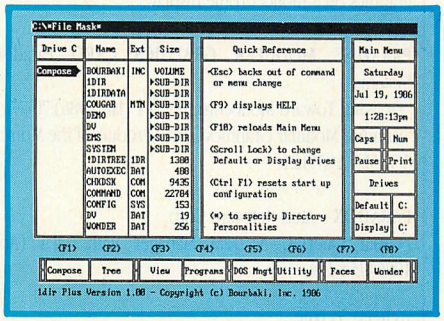
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P.O Box 2867 Boise, ID 83701

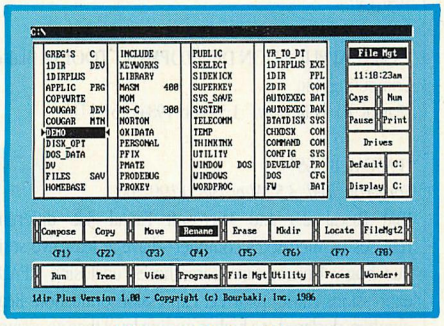
Some of the **1dir+** Faces



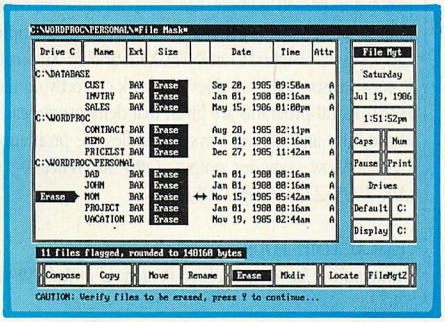
Menu Only Face



Quick Reference Face



Two Menu Face



Global Directory Face

"WONDER" PLUS

1dir+

BOURBAKI INC.

PAPPAS, CHRIS H. and WILLIAM H. MURRAY
"Simple Circuits, Better Circuits." 1:5 (Feb 1984): 118-156.

"PARADISE MODULAR GRAPHICS CARD"
Product of the Month. 3:3 (Mar 1985):21.
The Paradise Systems' Modular Graphics Card is fully compatible with the IBM Color Graphics Adapter. It can display CGA graphics on a monochrome monitor, mapping the CGA's 16 colors onto 16 shades of gray. Monochrome text modes use an 8-by-14 pixel character block. Piggyback modules may be added including serial and parallel ports, clock, and additional memory up to 256KB. Some software packages recognize it only as a graphics board and ignore its monochrome features, but overall the board is an excellent solution to the problem of graphics on a monochrome display.

PARADISE MODULAR GRAPHICS CARD—Paradise Systems
"Drawing Toward Monochrome." 4:1 (Jan 1986):70-77.
"Paradise Modular Graphics Card." Product of the Month. 3:3 (Mar 1985):21.

PARADOX—Ansa Software Corp.
"Visual Queries, A Data Manager with." 4:4 (Apr 1986):154-174.

PARSLY, JAMES
"Using ROM Characters." Tech Notebook. 4:8 (Aug 1986):47.

PASCAL APPLICATION DEVELOPMENT TOOLS—Blaise Computing, Inc.
"Pascal Tools Review." 1:5 (Feb 1984):161-171.

"PASCAL BUGS"
Forgeron, Ted. 3:5 (May 1985):199-208.
IBM Pascal 2.0 and Microsoft Pascal 3.2—different releases of Microsoft's compiler—have at least five serious bugs. Unnecessary parentheses enclosing REAL8 expressions cause incorrect expression evaluation. Real numbers declared at a higher nesting level than an assignment statement may not be assigned correctly. REAL8 VAR parameters passed to library functions can cause the compiler to crash. Code is generated incorrectly for multiplication results assigned to an INTEGER4 variable. Automatic coprocessor detection does not work correctly on the PC/AT. Pascal programs are given that demonstrate each of the bugs and suggest ways to handles the problems. Figures show compiler output. *Letter References—3:8 (Aug 1985):22; 3:9 (Sep 1985):20.*

"PASCAL TIMES FOUR"
Duntemann, Jeff and Michael Bentley. 2:1 (Jul 1984): 58-72.
IBM/Microsoft Pascal, version 3.2, Pascal/MT+86 version 3.2 (Digital Research), SBB Pascal version 2.0 (Software Building Blocks), and Turbo Pascal version 1.0 (Borland) are reviewed. All are native code compilers. Microsoft Pascal generates the fastest code, but its documentation is dense and disorganized. Pascal/MT+86 has incomplete documentation and cannot be used with DOS LINK. SBB Pascal generates excellent code and supports graphics and other PC features. Turbo Pascal is termed remarkable in performance and features; however, it is difficult to generate large programs with this compiler because it lacks a linkable object format. Tables compare the compilers' features and benchmark test results. Listings of the benchmarks are included. *Letter References—2:3 (Sep 1984):21; 2:4 (Oct 1984):12.*

"PASCAL TOOLS REVIEW"
Gleckler, Arthur A. 1:5 (Feb 1984):161-171.
Blaise Computing's Pascal Application Development Tools is an anthology of function and procedure libraries for use with the IBM Pascal Compiler. The tools fall into six groups: basic numeric functions, string manipulation routines, screen handling routines, fast form utilities, graphics routines, and application routines, including a command-line access function and a command-line parser. A table lists the functions and procedures that are included in the package. A figure shows interdependencies of the Pascal Tools units. The package is recommended for serious Pascal programmers.

PASCAL UTILITIES—Seven Valleys Software
"Well-formatted Pascal, The." 2:4 (Oct 1984):22-33.

PASCAL/MT+86—Digital Research, Inc
"Pascal Times Four." 2:1 (Jul 1984):58-72.

PASCALPAC—Major Software
"Debugging Duo." Product Watch. 4:3 (Mar 1986): 180-182.

PASM—Phoenix Software Associates
"PASM, TASM, and CHASM." 3:12 (Dec 1985):161-169.

"PASM, TASM, AND CHASM"
Mirecki, Ted. 3:12 (Dec 1985):161-169.
Three new assemblers, Phoenix Software's macro assembler (PASM), Speedware's TURBO EDITASM (TASM), and Whitman Software's Cheap Assembler (CHASM), are judged against the standard, the IBM/Microsoft Macro Assembler (MASM) version 3.01. Tables compare features and benchmark performances of the four assemblers. *Letter References—4:4 (Apr 1986):22-24.*

"PASSING THE LAB TEST"
Aitken, Peter G. 1:4 (Jan 1984):75-84.
An IBM PC can be used to collect laboratory data. At the Integrative Neurophysiology Laboratory of the Duke University Medical Center, the PC was selected because of its fast processing speed and large memory capacity. The Tecmar Labmaster I/O board was added. A RAM disk, IBM Macro Assembler, and IBM BASIC compiler were used. Assembly and BASIC programs are listed. These programs provide routines for collecting and analyzing data using the I/O device.

"PATCHING A BUG IN DOS 2.1"
Awalt, Don. 2:5 (Nov 1984):71.
Improper handling of the segment register and stack pointer in DOS 2.1 can cause the PC*jr* to hang after any key is pressed. However, a patch has been provided by IBM to fix this problem. The operation involves changing the six instances in IBMDOS.COM in which the two stack registers are modified incorrectly. The necessary patch is provided in a figure. *Letter References—3:1 (Jan 1985):25; 3:3 (Mar 1985):17.*

"PATCHWORK"
Frank, Daniel M. Tech Notebook. 2:2 (Aug 1984):113.
Although the undocumented SWITCHAR= statement can be used to allow the UNIX-like slash character in path names, it causes problems when RESTORE is used to reload files. The solution is to use DEBUG to patch RESTORE to performs correctly with the alternate path character. Source code for the patch is included.

PC MODEM HALF CARD—Ven-Tel, Inc.
"Communicating from Within." 3:9 (Sep 1985):60-77.
"PC Modem Half Card." Product Watch. 4:10 (Oct 1986):185-188.

"PC MODEM HALF CARD"
Hansen, Augie. Product Watch. 4:10 (Oct 1986): 185-188.
A new version of the Ven-Tel modem incorporates new hardware features and is supported by improved documentation and release 3.6 of Crosstalk XVI.

PC MOUSE—Mouse Systems Corp.
"Tale of Two Mice, A." 1:7 (Apr 1984):150-172.

"PC POWER-UP ERROR CODES"
Wright, Jack. 2:2 (Aug 1984):115-118.
When the IBM PC is powered up, it performs various parity checks, which indicate to the user if anything is wrong. A table lists parity errors, messages, and possible causes of the problems. The parity check process is explained. *Letter References—2:6 (Dec. 1984):26-29.*

P/C PRIVACY—MCTel, Inc.
"Encryption Software." 3:6 (Jun 1985):162-179.

PC PROBE—Atron
"Entomological Explorations." 3:1 (Jan 1985):88-105.
"It's PC Probe!." 1:8 (May 1984):86-96.
"Untangling Programs." 3:4 (Apr 1985):81-93.

"PC SCHEME"
Beale, Dan. Product of the Month. 4:8 (Aug 1986):29.
PC Scheme from Texas Instruments is a complete and inexpensive LISP compiler. It implements Scheme, a standardized version of LISP, and includes extensions for vectors, arrays, streams, structures, graphics, and interlanguage calling. An EMACS editor and a pop-up, full-screen debugger also are included. Benchmark times show that PC Scheme has faster execution times than any other LISP for the IBM PC.

"PC SPEAKS LISP, THE"
Wong, William G. 1:7 (Apr 1984):112-148.
IQ LISP version 1.4.5 (Integral Quality), muLISP/muStar-82 version 3.13 (Microsoft), and TLC LISP version 1.26 (The LISP Company) are reviewed. Tables and figures show how IQ LISP uses tagged memory for object formats. Another figure shows the closed data space of the muLISP compiler. A table compares the features of the various compilers. A sidebar lists various reference books available on programming in LISP. *Letter References—2:1 (Jul 1984):24; 2:2 (Aug 1984):14.*

"PC VERSIONS OF IRMX"
Foard, Richard M. 4:6 (Jun 1986):126-150.
PC/RTX (for the PC) and AT/RTX (for the PC/AT) from Real-Time Computer Science are IBM-specific implementations of Intel's iRMX86 6.0. iRMX provides object-oriented architecture and exception handling techniques that encourage good system design. PC/RTX and AT/RTX reduce the work necessary to use iRMX in a PC-based system. Tables list UDI system calls and interrupt procedure relationships. Figures show the hierarchy of communications within the system and interrupt management.

PC/AT FIXED-DISK DRIVE OPTION—IBM
"Replacement Disks for the AT." 3:8 (Aug 1985):74-79.

PC-DOS—IBM
"Ascent of DOS, The." 4:10 (Oct 1986):92-104.

PCEXTENDER—Falcon Technology
"Ten By Ten." 2:5 (Nov 1984):52-63.

PC/FOCUS—Information Builders, Inc.
"Mainframe Compatibility, A Data Manager with." 3:11 (Nov 1985):124-144.

"PC*jr*"
Fastie, Will. Directions. 1:4 (Jan 1984):10-11.
The long-awaited PC*jr* arrives. At first glance, it seems very compatible with the PC, although the keyboard is quite different. *PC Tech Journal* is working to gather the detailed, technical information concerning the machine that is necessary for a quality review.

PC/INTERCOMM—Mark of the Unicorn, Inc.
"High-tech Mimicry." 2:3 (Sep 1984):46-55.

"PC/IX"
Fastie, Will. Directions. 1:7 (Apr 1984):11-16.
IBM has introduced PC/IX, a UNIX-like operating system for the PC/XT and in so doing has decided to ignore XENIX, Microsoft's version of the UNIX operating system. Because of several drawbacks, PC/IX is not likely to have mass market appeal. Several other firms also are announcing implementations of UNIX for the XT.

"PC/IX"
Hansen, Augie. 3:7 (Jul 1985):80-87.
PC/IX (Interactive Executive) is the first single-user UNIX system for the IBM PC family. It was ported to the 8088 microprocessor from AT&T System III sources by Interactive Systems. Version 1.1 runs on the PC equipped with a hard-disk expansion unit, the PC/XT, the PC/XT-370, and the PC/AT in real address mode only. It is a multitasking system with a full-screen editor called INed, which is covered in a sidebar. The package includes a core system and seven subsets: programming, communications, Source Code Control System (SCCS), text processing, special-purpose programs, games, and system accounting. Tables show hardware requirements, DOS-PC/IX interface commands, and PC/IX benchmarks on the XT and the AT. *Letter References—3:9 (Sep 1985): p. 20.*

PC/IX—IBM
"PC/IX." 3:7 (Jul 1985):80-87.
"Reflections of UNIX." 3:5 (May 1985):54-73.

PC-MATE GRAPHICS MASTER—Tecmar
"Four Multifunction Display Adapters." 1:4 (Jan 1984): 32-43.

PC-MINI—Ampak Business Systems, Inc.
"5251 Connection, The." 4:7 (Jul 1986):76-89.

PCM-PSM—Computer Peripherals
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

PCNET—Orchid Technology
"PCnet—Low-cost Networking for the IBM PC ." 1:2 (Sep/Oct 1983):50-63.

"PCNET—LOW-COST NETWORKING FOR THE IBM PC"
Churchill, Bruce W. 1:2 (Sep/Oct 1983):50-63.
Orchid Technology's PCnet is a local area network (LAN) for the IBM PC. PCnet uses CSMA/CD protocol as a distributed bus baseband system. Software integrates with DOS. Figures illustrate network components and a low-level protocol called *datagram* that may be used as a stream protocol from one PC to another. Tables list function calls, assignment of disk volumes, and prices.

PCOX/PLUS—CXI, Inc.
"Emulating the 3278." 4:2 (Feb 1986):48-63.

PC-QICTAPE—Alloy Computer Products
"Moving up to Tape." 3:11 (Nov 1985):62-83.

PC/RTX—Real-time Computer Science Corp.
"PC Versions of iRMX." 4:6 (Jun 1986):126-150.

"PC-TALK: COMMUNICATIONS CONTROL"
Fastie, Will. 1:2 (Sep/Oct 1983):162-166.
PC-TALK is a communications software package for the IBM PC. PC-TALK III, the third version, is highly recommended. The program may be used for terminal emulation or intercomputer communications. Most commands require a single keystroke. A directory can store up to 60 numbers. Although its standard configuration is to work with a Hayes-compatible modem, other modems can be accommodated. Files can be received and transmitted easily. XMODEM protocol is also supported.

PC-TALK—FREEWARE
"PC-TALK: Communications Control." 1:2 (Sep/Oct 1983):162-166.

PC10—Qubié
"Ten By Ten." 2:5 (Nov 1984):52-63.

PC-TEST—A.J.M. Associates
"Entomological Explorations." 3:1 (Jan 1985):88-105.

PCT-9S TAPE SUBSYSTEM—Catamount Corp.
"Nine-track Tape Systems." 4:8 (Aug 1986):94-108.

PCTURBO-186—Orchid Technology
"Exceeding the Speed Limit." 3:6 (Jun 1985):87-97.

PC212A—Rixon, Inc.
"Communicating from Within." 3:9 (Sep 1985):60-77.

PCWATCH—IBM
"Successfully Seeking Interrupts." Product of the Month. 3:12 (Dec 1985):29.

PDIB-128 BUBBLE BOARD—Pure Data Ltd.
"Bubble Boards." 3:5 (May 1985):123-136.

PDIB-512 BUBBLE BOARD—Pure Data Ltd.
"Bubble Boards." 3:5 (May 1985):123-136.

PDT-PC—Answer Software Corp.
"Entomological Explorations." 3:1 (Jan 1985):88-105.
"Untangling Programs." 3:4 (Apr 1985):81-93.

P-EDIT—Satellite Software International
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

PEEKS 'N POKES—Data Base Decisions
"58 Easy Pieces." 1:5 (Feb 1984):180-183.

PENDLETON, ALAN and STEVEN GREENFIELD
"Desktop Mainframe." 3:11 (Nov 1985):86-97.

PERIPHERALS
"Accessing the Print Queue." Programming Practices. 4:6 (Jun 1986):187-193.
"Comparing Great Things with Small." 2:3 (Sep 1984): 65-75.
"DOS Command IBM Forgot, The." 2:3 (Sep 1984): 79-89.
"Epson Technical Comparison." 1:2 (Sep/Oct 1983): 130-134.
"Epson's New RX-80 and FX-80." 1:2 (Sep/Oct 1983): 125-128.
"IBM's New Alternative to Letter-quality Printing." 1:8 (May 1984):162-166.
"Microsoft Mouse." Product Watch. 4:3 (Mar 1986):186.
"MINI-PRINT." Product Watch. 4:5 (May 1986):203-205.
"Mixing Systems Components." 1:7 (Apr 1984):106-110.
"Oki Dokey: from PC to Okidata 84." 2:3 (Sep 1984): 92-106.
"Printer Control." Tech Notebook. 3:8 (Aug 1985):41.
"Reset the Printer." Tech Notebook. 4:4 (Apr 1986):52.
"Softstrip System, The." Product of the Month. 4:5 (May 1986):29.
"Tale of Two Mice, A." 1:7 (Apr 1984):150-172.
"Up, Down, Right, Left, and Check, Part 1." 1:4 (Jan 1984):46-52.
"Up, Down, Right, Left, and Check, Part 2." 1:5 (Feb 1984):93-116.
"Uptown Printers." 3:4 (Apr 1985):49-55.
"Using a Switch-type Joystick on the IBM PC." Tech Notebook. 1:8 (May 1984):195.

PERISCOPE—Data Base Decisions
"Breaking out with Periscope." 4:3 (Mar 1986):65-73.
"Entomological Explorations." 3:1 (Jan 1985):88-105.
"Structured Debugging." Product of the Month. 4:1 (Jan 1986):29.

PERRONE, GIOVANNI
"Bernoulli Box." Product Watch. 4:4 (Apr 1986):197-98.
"Bernoulli Box, The." 3:6 (Jun 1985):144-156.

"PERSONAL CICS"
DeShazo, Brandy C. 3:12 (Dec 1985):171-178.
Unicorn Systems' MicroCICS is a development and testing tool that provides a CICS (customer information control system) for a personal computer. It requires an IBM XT-370 or AT-370 with 640KB; comparisons are shown in a table. A programmer using MicroCICS can download and upload data from a mainframe, work with VSAM (virtual sequental access method) files, generate BMS (basic mapping support) maps, and revise system table data. MicroCICS provides more consistent response times, isolates users from programmers developing new programs, and serves as a training resource. A table lists CMS (conventional monitor system) commands.

PERSONAL COMMUNICATIONS MANAGER—IBM
"ACS or PCM: The Better to Communicate with." 2:2 (Aug 1984):155-177.

"PERSONALLY DEVELOPED SOFTWARE"
Product of the Month. 3:2 (Feb 1985):26.
IBM's Personally Developed Software consists of 36 different programs developed by individual authors and offered at very attractive prices through a direct marketing program. A table lists the entertainment, education, business, and productivity-oriented software packages in this series and gives their prices.

"PERSPECTIVE ON DATA MODELS, A"
Holsapple, Clyde W. 2:1 (Jul 1984):113-142.
A data model provides conventions for specifying the structure of data used to represent the real world and is described in terms of entities, attributes, and relationships. Each of the five formal models—relational, hierarchical, shallow-network, postrelational and CODASYL-network—is described. A table lists existing data management programs based on the various schemas.

PETTIT, GREGG L.
"Best of Both Worlds, The." 2:3 (Sep 1984):151-166.

PFIX86—Phoenix Computer Products Corp.
"Entomological Explorations." 3:1 (Jan 1985):88-105.

PHASORCODE 1000—International Phasor Telecom
"Encryption Software." 3:6 (Jun 1985):162-179.

PHELPS, KENT
"Complex Applications, A Data Manager Designed for." 4:2 (Feb 1986):160-176.

PIERCE, PAUL
"Dashed Cursor, The." Tech Notebook. 3:12 (Dec 1985):47.

PIERCE, PAUL, TED FORGERON, and STEVEN ARMBRUST
"Out from the Shadow of IBM." 4:8 (Aug 1986):52-75.

PL/1 COMPILER—Digital Research, Inc.
"Considering PL/1." 3:8 (Aug 1985):82-102.

"PLAN 4000"
Churchill, Bruce W. 1:5 (Feb 1984):58-70.
The Personal Local Area Network (PLAN 4000) is a local area network for connecting IBM PC, Apple II, and Apple III microcomputers. Figures illustrate PLAN 4000's distributed-star physical layout. File servers, filetransfer servers, and 3270 emulator servers are available. Tables list network commands.

PLAN 4000—Nestar
"PLAN 4000." 1:5 (Feb 1984):58-70.

PLINK86—Phoenix Software Associates
"Program Orchestration." 2:5 (Nov 1984):28-44.

"PLOT THICKENS, THE"
Johnson, Steve and Bob Kephart. 1:9 (Jun 1984): 117-127.
DGRAPH from Fox & Geller, Inc. is a graphics plotting utility for generating graphs using dBASE II data. It displays graphs on the IBM Color Graphics Adapter screen but is intended primarily for plotting graphs on paper. It can operate from a monochrome screen without screen display. The program is entirely menu driven, but the menus are inconsistent and poorly designed. Figures show sample graphs produced by the product. A listing provides a program that demonstrates how to use a printing device not recognized by DGRAPH.

"PLOTTING DATA"
Aitken, Peter G. 3:3 (Mar 1985):123-129.
Assembly language utility programs that digitize and store waveforms are listed and described. The programs are able to manipulate and graphically display the digitized data. Figures show the various waveform displays produced by the programs. The IBM Color Graphics Adapter may be used in the high-resolution mode to display the waveforms. These programs may be used in engineering and scientific applications.

"PLOTTING, DRAWING, AND FILLING"
Morgan, Christopher L. 1:6 (Mar 1984):38-58.
The article is an excerpt from the author's *Bluebook of Assembly Language Subroutines*. The nine assembly language routines presented perform basic plotting funcitons on the IBM Color Graphics Adapter, including screen clear, point plot, point plot via XOR, read pixel color, box fill, box fill via XOR, and line draw. The programs are not as fast as routines incorporating self-modifying code but represent good programming practice.

PLUG 'N PLAY INTERFACE KIT—Okidata
"Oki Dokey: from PC to Okidata 84." 2:3 (Sep 1984): 92-106.

PMATE—Lifeboat Associates
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

"POCKET APL"
Wynn, Pardner. 3:7 (Jul 1985):90-98.
STSC's Pocket APL is a simplified subset of STSC's APL*Plus product. The Del editor included with the package is similar to the DOS BASIC line editor, but the lack of a full-screen editor is an inconvenience. Pocket APL lacks graphics and communications support, DOS/BIOS calls, and utility workspaces; it is not powerful or complete enough for serious APL program development. Tables provide features and performance benchmarks comparisons between Pocket APL, APL*Plus, and IBM APL. A figure shows a piece of a sample program.

POCKET APL—STSC
"Pocket APL." 3:7 (Jul 1985):90-98.

POLYLIBRARIAN—Polytron Corp.
"Checking Out the Librarians." 2:4 (Oct 1984):80-90.

PONTIUS, CASEY
"12 Functional Modules of ANS COBOL, The." 1:7 (Apr 1984):76-82.

"POOR RICHARD'S CONVERTER: FROM A TO D"
Murray, William H. 2:3 (Sep 1984):30-41.
DASCON-1 (Metrabyte) is an analog-to-digital converter expansion board for the IBM PC. The dual-slope A/D converter (12 bits plus a sign bit) has four channels and a battery clock. A well-documented owner's manual describes operation and applications. Photos show various configurations of the converter. BASIC programs are listed for monitoring applications. Tables and figures show function data, test data, and specifications.

"POP (UP) GOES THE MOUSE MENU"
Anderson, Julie A. 2:2 (Aug 1984):74-84.
Three software packages that present pop-up menus for use with a mouse are evaluated: Designer Pop-Up Menus 3.0 (Mouse Systems); visuALL 3.09A (Trillian Computer); and Mouse Menu 200.101 (Microsoft). VisuAll is not easy to use because of its complicated command language. The Mouse Menu 200.101 package, which includes both the mouse and the necessary software, is best used when control over physical menu design and screen placement are required. Photos show sample screen displays, and listings provide sample program code.

POPCOM C100—Prentice Corp.
"Communicating from Within." 3:9 (Sep 1985):60-77.

"PORTABLE APPROACH, THE"
Foard, Richard M. 4:5 (May 1986):75-89.
Hunter & Ready, Inc.'s VRTX/86 (Versatile Real-Time Executive) family of silicon software components offers portability both from one operating environment to another and from one set of hardware to another. The device support package (DSP) included with VRTX/86 allows developers to begin one step past the hurdle of configuring for the PC's hardware set. Figures show dimensions of portability, and DSP and VRTX/OS in the PC/XT environment. A table lists TRACER commands. A sidebar highlights PC/VRTX from DYAD Technology Corp., a memory card designed for use with VRTX.

"PORTABLE II, THE"
Fastie, Will. Product of the Month. 4:6 (Jun 1986):31.
Compaq's Portable II, Model 3, is a lightweight PC/AT in a suitcase. It is 30-percent smaller and 17-percent lighter than other Compaq portables on the market and features an 8-MHz, 80286 processor that can be adjusted from the keyboard while the machine is running to operate at 6 MHz. The Portable II comes with 640KB of memory, a 360KB third-height disk drive, a serial and a parallel port, a realtime clock, and two expansion slots. Memory can be increased to 2.1MB without using an expansion slot.

"POWER GRAPHICS"
Hoffmann, Thomas V. 3:7 (Jul 1985):56-77.
The Vectrix VX/PC Color Card Set and the IBM Professional Graphics Controller (PGC) are reviewed. The PGC displays 256 different colors from a 4,096-color palette in 640-by-480 resolution; the VX/PC displays 512 colors also from a 4,096-color palette in 672-by-480 resolution. VX/PC is faster in emulator text mode, but the PGC displays higher quality graphics. Tables compare features, commands, benchmarks, and drawing times. Photos show sample screen displays from both systems. Sample program listings and an output driver for the PGC accompany the article. *Letter References—3:10 (Oct 1985):15; 3:12 (Dec 1985):18; 3:12 (Dec 1985):24.*

"POWER OF TURBO PASCAL, THE"
Covington, Michael A. 3:2 (Feb 1985):112-123.
Turbo Pascal 2.0B (Borland) is an excellent compiler distinguished by fast code, ease of use, low price, and access to low-level functions previously available only from assembly language. Listed programs to get command line parameters, manipulate the date and time, access subdirectories and implement pop-up windows demonstrate Turbo Pascal's low-level power. A photo shows the pop-up windows. *Letter References—3:5 (May 1985):18; 3:6 (Jun 1985):15-16.*

POWER PACK 3—Software Horizons, Inc.
"Drop-in Modules for C, Part 3." 3:8 (Aug 1985): 141-159.

"POWERS THAT BE, THE"
Hultquist, Paul F. Programming Practices. 3:5 (May 1985):213-214.
Standard Pascal does not have built-in exponentiation routines. This problem can be fixed with two listed, optimized exponentiation programs. Two programs are required because optimization strategy depends on whether the exponent is integer or floating point.

"POWERSTAT"
Aitken, Peter. Product Watch. 4:10 (Oct 1986):189-190.
A good statistics package, PowerStat supports all basic functions and many kinds of regression analysis. It has three parts: the data set module, the user program module, and the menu-driven statistical function module. A BASIC-like programming language, PowerStat can convert of data imported from other statistics packages.

"PREEMPTIVE SCHEDULING ON DOS"
Foard, Richard M. 4:4 (Apr 1986):98-122.
The AMX86 Multitasking Executive from KADAK Products, Ltd. can be used to build dedicated, realtime applications systems on Intel 8088- or 8086-based computers. Modules written in C, Pascal, or PL/M can call upon any of AMX's services directly. AMX is not intended to support general purpose systems with highly dynamic requirements, such as UNIX-like time-sharing systems; it is best suited for building lean, dedicated realtime systems. A sidebar features the C/Sharp Realtime Toolkit from Systems Guild, Inc., which provides five families of subroutines to tackle realtime jobs. A figure shows AMX86 components. Tables list basic AMX86 services, PC interrupt processing, and AMX86 system configuration.

PRESS, LARRY, AKI RUNCHAL, and CLEMENT TAM
"FORTRAN Pitfalls." 1:2 (Sep/Oct 1983):150-156.

"PRINT SCREEN SWITCH, A"
Swan, Tom. Programming Practices. 3:7 (Jul 1985): 162-163.
Because the PC's Shift and PrtSc keys are adjacent it is possible to hit both keys together accidentally. A listed program eliminates this problem by disabling the print screen keystrokes. It modifies a status byte at 50:0 to indicate that a print screen operation is already in progress.

"PRINTER CONTROL"
Walkenbach, John. Tech Notebook. 3:8 (Aug 1985):41.
A pop-up editor can be used to send printer control codes from within an application. A file containing printer control code sequences (specific to a particular printer) can be created and loaded into the pop-up editor. When the user wants to send a control sequence to the printer, the desired control string in the file is marked as a block then printed as a portion of an ordinary file. Figures show example control code files for the IBM Graphics Printer and the Gemini 10X printer. *Letter References—3:10 (Oct 1985):23.*

"PRINTER STANDARDS"
Fastie, Will. Directions. 2:3 (Sep 1984):5-6.
For printers to eventually become as interchangeable as stereo components, the industry must develop standards for communications between printers and computers. Good standards have been developed in other areas, such as serial communcations (RS-232), the 5¼-inch diskette, and displays. Only the ASCII character set is standard on printers. Type styles, graphics, paper movement, and other printer functions are controlled differently on almost every brand of printer.

"PROBLEM OF COMPUTER SEMANTICS, THE"
Fastie, Will. Directions. 1:3 (Nov/Dec 1983):10-12.
General-purpose microcomputer programs are not able to handle the semantics (the meaning and the context) of a particular application. For example, Ashton-Tate's Lotus 1-2-3 can take data from the spreadsheet and graph it quickly and effectively. However, it cannot label each axis of a line graph using data entered in the spreadsheet. Although 1-2-3 is advertised as an integrated package, the user actually must perform the integration. A sidebar offers a profile of current readers and solicits readers' suggestions concerning the magazine.

"PRODESIGN II"
Angell, Richard. Product Watch. 4:4 (Apr 1986): 194-197.
ProDesign II from American Small Business Computers is reviewed. It is a low-end, low-cost CAD package that qualifies as an entry-level, computer-aided drafting tool. It operates by creating graphics primitives. The database limits allow drawings of a reasonable size to be created. One of its limitations is in environmental definition. The lack of continuous coordinate displays from user-defined datum lines is also mentioned.

PROFESSIONAL BASIC—Morgan Computing
"Six New Shapes of BASIC." 4:6 (Jun 1986):52-75.

PROFESSIONAL DEBUG FACILITY—IBM
"Professional Debugging." 3:3 (Mar 1985):60-70.

"PROFESSIONAL DEBUGGING"
Daetwyler, Dan. 3:3 (Mar 1985):60-70.
The IBM Professional Debug Facility is a hardware/software debugging tool that consists of two packages. The Resident Debug Tool (RDT) provides enhanced monitoring of program execution, including full trace facilities and the use of up to 18 breakpoints. The Disk Repair Utility is a circuit board that can be used to create nonmaskable interrupts. Figures show RDT memory window display, disassembly window display, partial trace window display, numeric math coprocessor window display, and the Disk Repair Utility main menu. Tables show an RDT command summary and disk repair commands.

PROFESSIONAL GRAPHICS CONTROLLER—IBM
"Power Graphics." 3:7 (Jul 1985):56-77.

PROFESSIONAL PASCAL—Metaware, Inc.
"Approaching the Optimum Pascal." 4:7 (Jul 1986): 94-133.

"PROGRAM EDITORS"
Glinert-Cole, Susan. 1:2 (Sep/Oct 1983):110-123.
Eighteen ASCII file editors, useful for program development, are compared: AFSE (Nota Bene Software), DataText (Datatek), Edit (Mc/clain Software), Edit Smith (Symmetric Software), Edix (Emerging Technology), Full Screen Editor (Frank Shiele Software), Professional Editor (IBM), I-Edit (Innovative Technology), P-Edit (Satellite Software), PMate (Lifeboat Associates), SCREEN (Basic Business Software), StarEedit (Supersoft, Inc.), TED (Morgan Computing Co.), TEXTRA Jr. (Ann Arbor Software Associates), VEDIT (Compuview), XyWrite (Xyquest), Big Ed (Irohnic Systems), and Easy Edit (Norell Data Systems. Most of them may be used as unsophisticated word processors. Tables compare the features of the editors.

PROGRAM EXECUTION ANALYZER—Micro Integrations Engineering, Inc.
"Stalking the Software Bug." 1:8 (May 1984):100-108.

"PROGRAM ORCHESTRATION"
Armbrust, Steven and Ted Forgeron. 2:5 (Nov 1984): 28-44.
Phoenix Software Associates' Plink86 is a program development tool that uses an overlaying method to allow different parts of a program to occupy the same area of memory at different times. Thus, a large program can run in less memory. Plink86 can be used as a substitute for IBM LINK or MS-LINK from Microsoft. It can link any object modules that adhere to the Microsoft or Intel relocatable object-module formats. Tables compare Plink86 with MS-LINK and show benchmark results for Plink86 using a 250KB program. Figures show the process of overlaying and give examples of commands.

"PROGRAMMER PRODUCTIVITY"
Fastie, Will. Directions. 4:5 (May 1986):11-12.
Programmers today, like programmers 13 years ago, still are responsible for reducing an abstract problem to a set of instructions that can be understood by some computer language. However, this finally may be changing. A number of packages now on the market, such as MDBS's Guru and Texas Instrument's Personal Consultant, are tools for building expert systems. Soon, an expert programming assistant may be able to turn a bunch of rules and descriptions into program code. Sidebars note the highlights of Esther Dyson's annual Personal Computer Forum in Phoenix and the First International Conference on CD ROM in Seattle.

PROGRAMMER'S TOOLS
"Breaking out with Periscope." 4:3 (Mar 1986):65-73.
"California 10-Pack, The." 1:3 (Nov/Dec 1983):78-83.
"Checking Out the Librarians." 2:4 (Oct 1984):80-90.
"Debugging Duo." Product Watch. 4:3 (Mar 1986): 180-182.
"DSD87." Product Watch. 4:10 (Oct 1986):183-185.
"Entomological Explorations." 3:1 (Jan 1985):88-105.
"58 Easy Pieces." 1:5 (Feb 1984):180-183.
"In the ISPF Tradition." 4:3 (Mar 1986):113-138.
"It's PC Probe!." 1:8 (May 1984):86-96.
"Keyboard Shortcuts." 3:10 (Oct 1985):131-144.
"Nibbler, The." Product Watch. 4:7 (Jul 1986):168-169.
"Norton Utilities, The." 1:1 (Jul/Aug 1983):70-77.
"Pop (Up) Goes the Mouse Menu." 2:2 (Aug 1984): 74-84.
"Professional Debugging." 3:3 (Mar 1985):60-70.
"Program Editors." 1:2 (Sep/Oct 1983):110-123.
"Program Orchestration." 2:5 (Nov 1984):28-44.
"Prototypes in Motion." Product of the Month. 4:3 (Mar 1986):29.
"QISort." Product Watch. 4:5 (May 1986):201-203.
"Screen Composure." 3:4 (Apr 1985):149-159.
"Sim8051." Product of the Month. 3:4 (Apr 1985):25.
"Single-stepping and Tracing." 1:8 (May 1984):130-144.
"Stalking the Software Bug." 1:8 (May 1984) :100-108.
"Structured Debugging." Product of the Month. 4:1 (Jan 1986):29.
"Successfully Seeking Interrupts." Product of the Month. 3:12 (Dec 1985):29.

"Two New Ways to Drive the Bugs Away." 1:8 (May 1984):110-128.
"Untangling Programs." 3:4 (Apr 1985):81-93.

PROGRAMMING
"Accelerated Keystrokes." Programming Practices. 4:9 (Sep 1986):179-185.
"Accessing DOS from Pascal." Tech Notebook. 1:2 (Sep/Oct 1983):83.
"Accessing the Serial Port from COBOL." 1:2 (Sep/Oct 1983):90-103.
"After Bubblesort." 1:7 (Apr 1984):40-59.
"Alarm for the AT, An." Programming Practices 4:4 (Apr 1986):179-182.
"Are You Sure (Y/N)?." 1:5 (Feb 1984):44-54.
"Arrgh! I Didn't Save My Program!." 2:5 (Nov 1984): 134-148.
"Assemblers without Ulcers." 2:3 (Sep 1984):173-186.
"Assembly Language Routines to Control Sounds on the IBM PC." 1:7 (Apr 1984):95-102.
"Audio Debugging." Tech Notebook. 3:1 (Jan 1985):177.
"Automatic Screen Dumps from BASIC." Tech Notebook. 1:1 (Jul/Aug 1983):147.
"Avoiding 'Redo from Start' Problems." Tech Notebook. 1:9 (Jun 1984):178.
"BASIC Elegance." 2:4 (Oct 1984):181-189.
"BASIC String Manipulation." Tech Notebook. 2:4 (Oct 1984):193.
"BASIC Table Lookups." Tech Notebook. 1:3 (Nov/Dec 1983):171.
"BASICA Screens to Turbo." Tech Notebook. 3:2 (Feb 1985):50.
"Behind BASIC's Back." Tech Notebook. 2:3 (Sep 1984):198.
"Best of Both Worlds, The." 2:3 (Sep 1984):151-166.
"Bit Rotation Speeds." Tech Notebook. 4:5 (May 1986):47.
"Blinking Cursor, The." Tech Notebook. 3:4 (Apr 1985):44.
"Bona Fide Bug, A." Tech Notebook. 3:5 (May 1985):41.
"Breakpoints in BIOS." Tech Notebook. 3:9 (Sep 1985):35.
"Building Device Drivers." 3:5 (May 1985):76-95.
"Calendar for the Ages, A." 3:12 (Dec 1985):136-142.
"Command Line Redirection." Tech Notebook. 4:1 (Jan 1986):44.
"Comparing Structures." Tech Notebook. 3:7 (Jul 1985):36.
"Compiled/Interpreted BASIC Check." 1:5 (Feb 1984):178-179.
"Controlling Input Using Inkey$." 2:2 (Aug 1984):32-39.
"Creating Bounce Bar Menus." 1:7 (Apr 1984):75.
"Customized Boots." 3:2 (Feb 1985):150-159.
"Customized Scrolling." Programming Practices. 4:1 (Jan 1986):173-187.
"Dashed Cursor, The." Tech Notebook. 3:12 (Dec 1985):47.
"Defining Function Keys Using ANSI.SYS." Tech Notebook. 1:6 (Mar 1984):77.
"Dipping into Directories." 3:2 (Feb 1985):67-77.
"Disappearing Cursor, The." Tech Notebook. 3:7 (Jul 1985):35.
"Display Character Set Customization." 1:1 (Jul/Aug 1983):121-129, 196, 19.
"Diversionary Benchmark, A." 1:1 (Jul/Aug 1983):95-98, 116, 194.
"Doubly Careful." Tech Notebook. 3:11 (Nov 1985):56.
"Encryption Methods, Part 1." 3:4 (Apr 1985):96-114.
"Encryption Methods, Part 2." 3:5 (May 1985):157-167.
"Ensuring Data Integrity." Tech Notebook. 4:3 (Mar 1986):44.
"Environmental Excavations." 3:2 (Feb 1985):90-98.
"FIELDing with BASIC." Tech Notebook. 3:6 (Jun 1985):42.
"Filters and Finite Machines." Programming Practices. 4:2 (Feb 1986):181-190.
"Flicker-free Scrolling." Tech Notebook. 4:9 (Sep 1986):43.
"Grabbing Parameters." Tech Notebook. 3:2 (Feb 1985):46.
"IBM BASIC and the Storage of Single-precision Variables." 1:7 (Apr 1984):86-92.
"Improving Turbo's I/O." 3:9 (Sep 1985):104-132.
"Inducing Cold Reboots." Tech Notebook. 1:2 (Sep/Oct 1983):157.
"INLINE Interrupts." Programming Practices. 3:12 (Dec 1985):181-187.
"Inside 1-2-3 Worksheet Files." 2:4 (Oct 1984):155-172.
"Interrupts and the IBM PC, Part 1." 1:3 (Nov/Dec 1983):173-199.
"Interrupts and the IBM-PC, Part 2." 1:4 (Jan 1984): 144-186.
"Keyboard and Display Interfacing." 1:7 (Apr 1984): 182-194.
"Keyboard Scan Codes." Tech Notebook. 3:6 (Jun 1985):40.
"Life in the Fast Lane." 1:7 (Apr 1984):62-74.
"Linking Assembly Subroutines to Basic Programs." 1:6 (Mar 1984):118-140.
"Linking Library Routines." Tech Notebook. 4:4 (Apr 1986):49.
"Load and Go: COM and EXE Files Explained." 1:2 (Sep/Oct 1983):136-149.
"Machine Specifics." Programming Practices. 3:6 (Jun 1985):181-186.
"Making Your Screens Speak for Themselves." 2:1 (Jul 1984):148-158.
"Managing Memory." 2:2 (Aug 1984):42-62.
"Matching Regular Expressions." Programming Practices. 4:5 (May 1986):191-199.
"Name, Rank, and Serial Number." Tech Notebook. 1:8 (May 1984):192.
".OBJ Lessons." 3:10 (Oct 1985):61-81.
"Packing the Date and Time." 3:1 (Jan 1985):46-54.
"Power of Turbo Pascal, The." 3:2 (Feb 1985):112-123.
"Powers that Be, The." Programming Practices. 3:5 (May 1985):213-214.
"Print Screen Switch, A." Programming Practices. 3:7 (Jul 1985):162-163.
"Programming for the 3270-PC." 3:3 (Mar 1985):74-88.
"Programming in 1-2-3." 3:11 (Nov 1985):149-161.
"QUICKCODE for 1-2-3." Product Watch. 4:8 (Aug 1986): 175-176.
"Random Number Generators." 2:2 (Aug 1984):86-110.
"Rapid Screens in Turbo." Tech Notebook. 3:9 (Sep 1985):39.
"Rev up the AT Keyboard." Tech Notebook. 3:5 (May 1985):39.
"Saving Space in Turbo." Tech Notebook. 3:6 (Jun 1985):39.
"Searching with Soundex." 3:4 (Apr 1985):163-168.
"Self-installing Software." Tech Notebook. 3:11 (Nov 1985):55.
"Set Implementation." 4:2 (Feb 1986):108-130.
"Setting the AT's Clock." Tech Notebook. 2:6 (Dec 1984):57.
"Significant Figures, I." 2:4 (Oct 1984):54-62.
"Significant Figures, II." 2:5 (Nov 1984):173-186.
"Significant Figures, III." 2:6 (Dec 1984):187-206.
"Slimmer Pascal, A." Programming Practices. 3:10 (Oct 1985):173-183.
"Spinning Your Own VDISK." 3:3 (Mar 1985):100-109.
"Strings." 2:3 (Sep 1984):111-126.
"Structured BASIC Programs." 2:1 (Jul 1984):161-182.
"Switching Modes." Programming Practices. 3:8 (Aug 1985):163-173.
"Table Look-up with the PC." 1:7 (Apr 1984):196-207.
"Taking Command in Turbo Pascal." Programming Practices. 4:3 (Mar 1986):161-177.
"Talking to a Mouse from Turbo Pascal." Tech Notebook. 2:4 (Oct 1984):63.
"Time on Your Hands." 1:8 (May 1984):146-161.
"Tracing Expanded Memory." Tech Notebook. 4:2 (Feb 1986):45.
"Truth about BASIC, The." 1:4 (Jan 1984):188-189.
"UCL: A User Command Language." 1:3 (Nov/Dec 1983):44-58.
"Untyped VAR Parameters." Tech Notebook. 3:8 (Aug 1985):43.
"VDISK on Command." Tech Notebook. 4:1 (Jan 1986):43.
"Video Function Call Fix." Tech Notebook. 4:7 (Jul 1986):41.
"We Interrupt This Program." Tech Notebook. 3:4 (Apr 1985):42.
"What Do BASIC Error Messages Really Mean?." Tech Notebook. 1:7 (Apr 1984):174.
"Word Processor File Conversion." 1:2 (Sep/Oct 1983):168-193.

"PROGRAMMING FOR THE 3270-PC"
Harian, Armen and Jeffrey Krantz. 3:3 (Mar 1985): 74-88.
Many PC-DOS programs will run unmodified on the 3270-PC, but some must be modified because of the concurrent (seven task) 3270 Control Program and subtle I/O differences between the PC and the 3270-PC. Tables show 3270 display characteristics, asynchronus communications details, and a communications buffer design.

"PROGRAMMING IN 1-2-3"
Wagner, Jordan Lee. 3:11 (Nov 1985):149-161.
With the help of some clever programming, the user can realize extra mileage out of Lotus 1-2-3. The macros inherent to 1-2-3 can be used to create a programming language with easy application to data processing operations and very user-friendly interfaces. In addition, the programming techniques presented make debugging in 1-2-3 less difficult. Figures provide source code for the programming of a stack and an iterative loop.

"PROGRAMMING IN LOGIC, PART 1"
Covington, Michael A. 3:12 (Dec 1985):82-95.
Prolog is a nonprocedural programming language that solves problems by taking a set of facts and working through rules of logic to reach a conclusion. Prolog is able to deduce additional facts on its own. The language is used to write expert systems, parsers, and other artificial intelligence applications. Its limitations include the need to mix procedural and nonprocedural programming styles and its inability to provide negative conclusions or embedded conditionals. Listings show sample programs for a parser and a small expert system; figures show screen display produced by the programs. An accompanying sidebar compares Prolog's two syntaxes. *Letter References—4:6 (Jun 1986):18-20.*

"PROGRAMMING IN LOGIC, PART 2"
Covington, Michael A. 4:1 (Jan 1986):145-155.
Prolog programming language is designed to solve problems using logic. It is neither procedural nor numerical. Eleven Prolog implementations for the PC are reviewed: A.D.A. Public Domain Prolog, A.D.A. Educational Prolog, and VML Prolog (Automata Design Associates); Arity/Prolog (Arity Corp.); Micro-Prolog (Logic Programming Associates); MProlog (Logicware, Inc.); Prolog-1 (Expert Systems International); PROLOG-86 (Solution Systems); and Prolog V (Chalcedony Enterprises). Arity/Prolog is the only native-code compiler reviewed. Tables compare benchmark times and implementation features of each of the products. Listings show sample programs.

PROGRESS—Data Language Corp.
"Transaction Processing, A Data Manager for." 4:3 (Mar 1986):142-158.

PROKEY—Rosesoft, Inc.
"Keyboard Shortcuts." 3:10 (Oct 1985):131-144.

PROLOG COMPILER AND INTERPRETER—Arity Corp.
"Programming in Logic, Part 2." 4:1 (Jan 1986):145-155.

PROLOG V—Chalcedony Enterprises
"Programming in Logic, Part 2." 4:1 (Jan 1986):145-155.

PROLOG-1—Expert Systems International
"Programming in Logic, Part 2." 4:1 (Jan 1986):145-155.

PROLOG-86—Solution Systems
"Programming in Logic, Part 2." 4:1 (Jan 1986):145-155.

PROMODEM 1200B—Prometheus Products
"Communicating from Within." 3:9 (Sep 1985):60-77.

"PROPRIETARY RIGHTS AND SOFTWARE"
Oppenheimer, Max Stul. Legal Brief. 3:12 (Dec 1985):189-191.
A report published by the American Bar Association's Computer Law Division regarding proprietary rights in software addresses six issues. The members are split on whether Section 109 of the Copyright Act is applicable to software. They have proposed amending the copyright law so that loading a program into RAM will be considered copying the program. The committee opposes amending the Act to prohibit reverse engineering. The members split evenly on whether complete source code should be required when filing for a software copyright. The committee supports the use of *c* as the software copyright symbol and the idea that state trade secret laws are not preempted by the Copyright Act.

"PROTECTING THE CORPORATE FLANK"
Oppenheimer, Max Stul. Legal Brief. 3:1 (Jan 1985): 179-183.
Trade secrets need protection from employees who might leave a company to start a competitive firm or go to work for a competitor. In most states a "covenant not to compete" or a "noncompetition agreement" is enforceable. Employees agree not to compete for a certain time period after termination of employment.

"PROTOTYPES IN MOTION"
Duntemann, Jeff. Product of the Month. 4:3 (Mar 1986):29.
Dan Bricklin's Demo Program, produced by Software Garden, Inc., is an interface prototyping tool that allows the user to design a text screen using the program's built-in editor. The screen is then compressed and stored in RAM, not as a disk file. Users can devise hollow programs without doing any actual programming. The product can be used to determine the bounds of acceptability of program complexity and computational delay by varying the programmable delays between screens.

PUCKETT, THOMAS
"Exceeding the Speed Limit." 3:6 (Jun 1985):87-97.

PUCKETT, THOMAS and BOB SMITH
"Life in the Fast Lane." 1:7 (Apr 1984):62-74.
"Time on Your Hands." 1:8 (May 1984):146-161.

Q

QIC-60—Tecmar, Inc.
"Moving up to Tape." 3:11 (Nov 1985):62-83.

QIC-FILE—Sysgen, Inc.
"Moving up to Tape." 3:11 (Nov 1985):62-83.

"QISORT"
Mirecki, Ted. Product Watch. 4:5 (May 1986):201-203.
A sorting utility for Ryan-McFarland (RMCOBOL), QISort from Quantumn Information Systems can be invoked from the DOS prompt or called as from a COBOL program. QISort makes up for tedious and error-prone formatting codes with its functionality and speed (faster than most sort utilities). There are three types of QISort parameters: fields to sort on (required), record selection criteria (optional), and output file format (optional). QISort accepts all RMCOBOL file types.

QNX—Quantum Software Systems
"Reflections of UNIX." 3:5 (May 1985):54-73.

Q-PRO 4—Q-N-E International
"Intelligent Screen Forms, A Data Manager for." 4:1 (Jan 1986):126-142.

Q-TIP—Alloy Computer Products, Inc.
"Nine-track Tape Systems." 4:8 (Aug 1986):94-108.

QUAD5251—Quadram Corp.
"5251 Connection, The." 4:7 (Jul 1986):76-89.

QUADBOARD—Quadram Corp.
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

QUADPORT-AT—Quadram Corp.
"Beyond COM2." 4:9 (Sep 1986):68-79.

QUADDISK—Quadram Corp.
"Ten By Ten." 2:5 (Nov 1984):52-63.

QUEDENS, GUY
"Macro Assembler Version 4.0." Product Watch. 4:7 (Jul 1986):169-172.

QUEDENS, GUY and GARY WEBB
"Switching Modes." Programming Practices. 3:8 (Aug 1985):163-173.

QUICKCODE—Fox & Geller Inc.
"QUICKCODE: Instant Gratification." 1:9 (Jun 1984): 129-145.

"QUICKCODE FOR 1-2-3"
Richardson, Ronny. Product Watch. 4:8 (Aug 1986): 175-176.
QUICKCODE for 1-2-3 from Fox & Geller, Inc. provides a useful macro language, called PL/123, for Lotus 1-2-3, which is similar to BASIC and dBASE. Code is saved in standard text files and is accessible from any editor. QUICKCODE for 1-2-3 also includes a keystroke macro processor and a facility for developing databases written with Lotus macros. Design flaws make both programs unusable.

"QUICKCODE: INSTANT GRATIFICATION"
Glinert-Cole, Susan. 1:9 (Jun 1984):129-145.
From a user-designed data entry screen, Fox & Geller, Inc.'s QUICKCODE generates dBASE II data files and dBASE II programs to add, delete, print, and edit records; print labels; and output data in delimited format for use with WordStar. The screens may contain line drawing characters, and default values may be defined for designing screens quickly. The QuickMenu facility allows menus to be created. Figures show sample screens and menus.

QUIETWRITER PRINTER—IBM
"Uptown Printers." 3:4 (Apr 1985):49-55.

R

R:BASE 5000—Microrim
"Kernel Code Generation, A Data Manager with." 3:9 (Sep 1985):82-101.

"R:BRIDGE"
Lima, Anthony K. Product Watch. 4:10 (Oct 1986): 188-189.
R:Bridge from Synchronicity Research is a memory-resident utility that provides access to R:base 4000 and 5000 data as well as some R:base commands, from any of four popular languages—APL(APL*Plus/CP), BASIC (Microsoft and IBM), C (Lattice, RUN/C, Microsoft, and C86), and Pascal (Turbo Pascal 2.0 and 3.0). The program works independently of R:base; however, R:base is required to set up databases and tables. R:Bridge is recommended for those working with R:base who need improved performance or added flexibility, and who have some familiarity with one of the four languages supported.

"R&D TAX INCENTIVES"
Oppenheimer, Max Stul. Legal Brief. 3:5 (May 1985): 223-224.
Until December 31, 1985, a taxpayer is entitled to a Research and Development Tax Credit established by the Economic Recovery Tax Act of 1981. The amount of tax incentive available depends on the amount by which base period research expenses exceed qualified research expenses. Definition of these terms and the methods of calculating the tax credit are presented. Applicability of research and development tax incentives to private consultants and contractors is also considered.

RACET PCMS-150—Racet Computes, Ltd.
"Breaking the 32MB Barrier." 4:5 (May 1986):94-108.

RAMPAGE!—AST Research, Inc.
"Expandable Memory." 4:2 (Feb 1986):66-83.

RAMPAGE AT—AST Research, Inc.
"Expandable Memory." 4:2 (Feb 1986):66-83.

RAM + 3—Seattle Computer Products, Inc.
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

"RANDOM NUMBER GENERATORS"
Hultquist, Paul F. 2:2 (Aug 1984):86-110.
Performance of the random number generator in interpreted BASIC is tested, and its algorithm is compared theoretically with other algorithms. PC BASIC uses the linear congruential method, a standard algorithm of limited use with BASIC's short 16-bit integers. Figures show the scatter plots of the relative performance of eight different algorithms. Listings and references are also included. *Letter References—2:5 (Nov 1984):22.*

"RAPID SCREENS IN TURBO"
Louderback, Joseph G. Tech Notebook. 3:9 (Sep 1985):39.
Two programming tricks in Turbo Pascal are used to flash data to and from the screen quickly. One technique allows more than 100 screen images to be stored. Images are stored on the heap, a larger area than Turbo's 64KB code and data segment. The second technique uses Turbo's fast MOVE command for the data transfers.

RASM-86—Digital Research, Inc.
"RASMatazz without the Jazz." 2:2 (Aug 1984):120-150.

"RASMATAZZ WITHOUT THE JAZZ"
Dunford, Chris. 2:2 (Aug 1984):120-150.
Digital Research, Inc.'s RASM-86 is an assembler that is intended to compete with IBM's Macro Assembler (MASM). RASM-86 is well documented; it uses less memory than MASM and has significantly fewer bugs. However, RASM-86 is not a macro assembler and performs only limited conditional assembly. It lacks an ASSUME statement and has considerably less flexibility than MASM when setting up complex data structures. Figures show RASM-86 language samples and an example of MASM macro use. A table compares the program sizes of MASM and RASM-86; a second table compares assembly times.

RAYMOND, ERIC S.
"Assemblers without Ulcers." 2:3 (Sep 1984):173-186.

RE/CALL—Yes Software, Inc.
"Keyboard Shortcuts." 3:10 (Oct 1985):131-144.

REACH!—AST Research, Inc.
"Communicating from Within." 3:9 (Sep 1985):60-77.

READISCOPE—Readiware Systems, Inc.
"Testing 1, 2, 3, 4, 5." 3:5 (May 1985):142-152.

REALIA COBOL—Realia, Inc.
"COBOL Performs." 3:6 (Jun 1985):58-83.

RECORDING INTERCHANGE DIAGNOSTIC—Dymek
"Testing 1, 2, 3, 4, 5." 3:5 (May 1985):142-152.

"RECURSIVE CURVES"
Lee, Eui In. 3:4 (Apr 1985):171-174.
Fractal curves are best drawn using the techniques of recursive programming. Unlike Pascal, BASIC does not permit easy use of recursive techniques. IBM BASICA's DRAW statement, with its Graphics Definition Language (GDL), permits the use of recursive concepts without incorporating actual recursion in BASICA code. Two BASICA programs are provided that use GDL to plot Hilbert and Sierpinski curves. A third program plots a quadratic Koch curve. Figures show sample curve plots.

REDMOND, WILLIAM J.
"Managing Memory." 2:2 (Aug 1984):42-62.

"REFLECTIONS OF UNIX"
Hansen, Augie. 3:5 (May 1985):54-73.
The multitasking, multiuser UNIX operating system is ahead of competing operating systems, such as DOS, in areas of flexibility, convenience, and overall capability. Three licensed versions of UNIX are reviewed: PC/IX 1.0 (IBM); VENIX/86 2.0 (UniSource Software); and XENIX 3.0 (The Santa Cruz Operation); as well as three look-alike products: COHERENT 2.3.35 (Mark Williams); QNX 1.2 (Quantum Software Systems); and uNETix SFS 2.0 (Lantech Systems). Tables summarize the six products, as well as the commands of UNIX, system administration, text processing, and program development.

"REFLEX"
Casey, William. Product Watch. 4:4 (Apr 1986): 189-194.
Reflex, a simple file manager with a well-designed user interface, was built by Analytica Corp. and later bought by Borland International. Reflex provides five views of data: list, form, graph, crosstab, and report. Because it is a file manager, Reflex does not support relationships between files and has no programming language. For its price, Reflex is a functionally robust system. *Letter References—4:7 (Jul 1986):18-21.*

RELAY—VM Personal Computing
"High-tech Mimicry." 2:3 (Sep 1984):46-55.
"Instant Relay." 2:4 (Oct 1984):94-112.

REMOTE—Microstuf, Inc.
"Controlling from Afar." 4:4 (Apr 1986):84-93.

"REPLACEMENT DISKS FOR THE AT"
Hansen, Augie. 3:8 (Aug 1985):74-79.
Prior to July 1985, only two non-IBM hard-disk drives compatible with the IBM PC/AT met IBM's specification for an average access time of 40 milliseconds or less: CORE International's ATplus and Express Systems' 20MB disk. IBM's drive is produced by Computer Memories Inc. (CMI). The CORE and Express Systems drives are made by Control Data Corp. (CDC). Benchmarks for each system were performed on an AT running DOS 3.0; the results are summarized in a table. The performance of the three systems was nearly identical. A figure shows the CMI head positioning system, and a sidebar is devoted to the meaning of the term "AT compatible."

"REPLACING RENAME"
Mirecki, Ted. Tech Notebook. 3:4 (Apr 1985):41.
DOS 2.x does not allow the user to rename subdirectories and volume labels. An assembly language program is presented that permits subdirectories and volume labels, as well as files, to be renamed. The program accepts wildcard characters in both the original and new names.

"RESET THE PRINTER"
Covington, Michael A. Tech Notebook. 4:4 (Apr 1986):52.
A method is provided to reset most PC-compatible parallel printers by lowering the INIT line in the parallel port. Code is provided in BASIC, assembly language, and Turbo Pascal that is used to perform the operation.

"REV UP THE AT KEYBOARD"
Crenshaw, Kevin M. Tech Notebook. 3:5 (May 1985):39.
New with the PC/AT is the bi-directional keyboard cable that allows a program to modify the registers of the keyboard controller chip, speeding up repeat-key action. The assembly language program listed can shorten the delay before a key starts to repeat and increase the autorepeat rate to 30 characters per second. *Letter References—3:10 (Oct 1985):26.*

REVELATION —Cosmos
"Complex Applications, A Data Manager Designed for." 4:2 (Feb 1986):160-176.

RICHARDSON, RONNY
"QUICKCODE for 1-2-3." Product Watch. 4:8 (Aug 1986): 175-176.

RIO GRANDE—STB SYSTEMS, INC.
"And the Winners Are." Product of the Month. 3:6 (Jun 1985):23.

RITARI, DOUGLAS
"DOS Command IBM Forgot, The." 2:3 (Sep 1984): 79-89.

RM/COBOL—Ryan-McFarland Corp.
"COBOL Performs." 3:6 (Jun 1985):58-83.
"12 Functional Modules of ANS COBOL, The." 1:7 (Apr 1984):76-82.

RM/COBOL RUNTIME SYSTEM—Ryan-McFarland Corp.
"COBOL Performs." 3:6 (Jun 1985):58-83.

ROBERTS, GLENN F.
"Finding Disk Parameters." 4:5 (May 1986):112-150.

ROBERTS, JAMES
"Self-Reliant User, A Data Manager for the." 4:10 (Oct 1986):146-165.

RODABAUGH, ROBIN
"Accelerating 2.1." Tech Notebook. 4:3 (Mar 1986):43.

ROLLINS, DAN
"Accelerated Keystrokes." Programming Practices. 4:9 (Sep 1986):179-185.
"Arrgh! I Didn't Save My Program!." 2:5 (Nov 1984): 134-148.
"BASIC String Manipulation." Tech Notebook. 2:4 (Oct 1984):193.
"Behind BASIC's Back." Tech Notebook. 2:3 (Sep 1984):198.
"Visible RAM Disk." Tech Notebook. 4:10 (Oct 1986):43.

ROSKOS, J. ERIC
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PC BRAND™: CAREFULLY CHOSEN PROGRAMMER TOOLS

BRIEF *Is Anything But. A Whopper of an Editor*

With a name that belies its thoroughness, Brief™ has every feature you've ever contemplated for your editor-in-chief. Text, from keyboard or files, is housed in multiple buffers, and scrolled through one or more windows you open, close, resize. A text buffer may be called to different windows to view two areas at once. A change in one changes both. Text blocks may be marked for printing, writing to files, movement to scrap buffers for cut and paste into other buffers, or deletion, with as many "undo" levels as you want.

Brief has text search abilities rivaling "grep", with wildcards for matching, indifference to intervening characters, acceptance of character ranges.

If you use Lattice, C86™, or Wizard, and have 320k, you can compile your C program without ever leaving Brief. It finds the lines with errors, and marches you through the text for repairs.

Parts of Brief were written with its own Lisp-like macro language which has structure, 32-character variable names, conditional execution, loops, and you can actually read it! Nothing like the hieroglyphs we've seen elsewhere. Bulletin board and public domain disks with macros. "Simply the best text editor you can buy", Dvorak *Infoworld*. (Needs 192k.)

Ask for:	List:	PC Brand:
U0590	$195	**Call**

HALO GRAPHICS SYSTEM *Multi-Board Graphics Library*

The premier graphics library that got the ball rolling for PC-based graphics and has grown so omnipotent that it supports over 25 graphics boards — including IBM's EGA and Nr. 9 Revolution's hi-res series — and has a multitude of mouse and printer drivers. All that in each box. Separate C versions for Lattice, M'soft, Aztec, CI86. What does Multi-Halo do? A down to the last pixel graphics library plus functions to reset drivers so distributed program can run on anything. Wonderful value for single license. Flexible licensing available for redistribution. Specify: S0315 & Language. List: **$300.** We: **$219.** With Dr. Halo II, a free-standing "paint": List: **$440,** Us: **$299.**

WINDOWS for C/WINDOWS for DATA *Microsoft Windows™ and TopView™ Compatible*

CALL FOR FREE DEMO!

Windows for C™is a library of over 80 functions to add the pizazz and practicality of window partitioning to your application. Unlimited windows, each defined in a C structure for easy reference throughout your program, can be made either to pop up or permanently overwrite the screen. Routines will scroll and highlight lists with arrow keys, will read and scroll ASCII files vertically and horizontally in windows, and even write to memory-loaded files off the screen.

Logical treatment of video attributes permits unchanged programs to run on color or monochrome. Colors of windows are set individually.

All functions are in separate modules; only those used are linked. Only buffers holding on-screen or temporarily obscured windows occupy RAM; others released dynamically. Best overall rating and fastest display in Bill Hunt's 7/85 *Tech Journal* review of five windowing products.

Windows for Data comprises all of Windows for C but takes in data through the windows as well. At the high level a single function lets you specify prompt string, field length, data type, screen location, picture, target variable, then sets lesser functions scurrying to get and process a user's input. There are utilities to get system date and time, mess with strings, create your own masks for fields.

Field options can require entry, prevent entry, permit insert or overtype, beeping on invalid or overflow keystrokes, and attachment of field-specific help messages and functions you want called to display messages or validate entries. And you decide which keys will clear a field, jump to the next or prior, quit, etc. Options diverse enough that a set of "fields" can be made to behave like a Lotus™ menu.

Specify Compiler:	List:	PC Brand:
T0100 Windows for C	$195	$149
T0150 Windows for Data	$295	$259

MICROSOFT C 4.0 *A Great C Battle Rages and You're Winning*

As the dreadnaughts pound each other with ever heavier ordnance, today's programmers reap the spoils of this war. Bundling a source debugger and a "make", and sporting a "huge" memory model permitting single data objects larger than 64k, the Microsoft C compiler has jumped a full version number to 4.0. But what's really impressive are the benchmarks reported in Dr. Dobb's (8/86) encyclopaedic survey of 17 C compilers. Microsoft's and IBM's C (licensed from Microsoft) run away with the contest winning 11 of 27 benchmarks.

The CodeView™ debugger, free for a limited time, uses windows to show everything on one screen: source alongside disassembled object, variables, stack and registers. Drop down windows—use a mouse if you like—obviate learning of commands. "A source-level debugger that puts the rest to shame" (Dobb's),

Microsoft C now has five memory models for code and data, plus non-library support for another thirteen, and boasts alternate math packages for speed versus accuracy, with or without 8087/80287 chips. A big plus in multi-language settings: call from this C any routine written in later versions of M'soft Pascal, FORTRAN, or Macro Assembler. Object code of all four may be intermixed come link time or commingled into libraries.

Both linker and library manager are part of the package, as is the "make", a UNIX™ name for a smart batch program which knows to expend minimum effort to rebuild any size of project by compiling and assembling only elements affected by new or changed modules.

It is reportedly used by Lotus, Ashton-Tate and, fittingly, Microsoft itself to develop Windows. Dobb's calls it "the best MS-DOS C development environment value today [for] virtually any kind of program conceivable." 320k suggested.

Ask for:	List:	PC Brand:
G0500	$450	$295

C-TREE *B-Tree File Manager, Source Code, No Royalties!*

C-tree is sturdy code that has weathered many seasons of prolonged and widespread use. It comes in C source, so you can modify it to fit a special case. No royalties provided you bind it into your binary application.

C-tree's design splits nodes to allow any number of users to access an index file simultaneously even when updates are in progress. So multi-user configurations and adaptation to networks are possible. Record-locking routines are provided for DOS 3.1/3.2, UNIX and XENIX.

Thanks to source code which does not deviate from the K&R standard, C-tree can travel. Tests in many environments prove that C-tree gives your application a ticket to anywhere.

C-tree permits any number of keys for a data file, supports duplicate keys, alphanumeric or numeric, supports files of variable record length; multiple keys in one index file, and keys of variable length. Both high level ISAM routines which handle details with minimum coding, and decomposed step-by-step functions you can access directly. It's comprehensive.

Ask for:	List:	PC Brand:
F0660	$395	$329

CURSES *Unix Style Screen Management*

Curses from Lattice™ manages the screen of the PC like Unix™ curses. Library of 84 functions and macros parallels Unix with matching parameter lists. So Unix programs are at home on the PC, and vice versa. Keeps any number of screens in memory, supports color, vast function set to get characters, wrap lines, scroll, blank lines, highlight, etc. Like Unix refreshes screen only on your command. Ask for: L0850. List: **$125**. Here: **$99**. With Source: L0860, **$250/$199**

dBC *Lattice Library Maintains dBASE Compatible Files With the Power and Speed of C*

dBC™ links C to dBASE. It creates and maintains files and their indexes which exactly replicate dBASE file design. So dBASE can read and update them. And the reverse. dBC can use any files created by dBASE. Now C and dBASE can operate on the same data bases interchangeably.

That opens up the widespread culture of dBASE installations to exploitation by C programmers. Tap that market, avoid the resident dBASE language, and gain the advantages of C with this single product.

dBC's functions parallel all dBASE's file handling commands, many decomposed to give closer control. Each backed by demo source files on disk.

Use dBC for custom work for clients, or on its own. It's a complete ISAM file manager for C whether or not dBASE will be used in tandem, supports all four memory models, and can have sixteen index and data files open. Big discount to buyers of both dBASE II and III versions. Specify Lattice, Microsoft 3.x, or DeSmet.

Versions:		List:	PC Brand:
L00II	For dBASE II	$250	$195
LCCII	With Source	$500	$390
L0III	For dBASE III	$250	$195
LCIII	With Source	$500	$390

PANEL *Feature-Laden Screen Design Tool*

Writing your own screenware can blow completion dates and profits. Panel™ works with you interactively to set up foolproof screen displays and data entry forms rapidly. Output is C source code.

Not just single plane: layer your screen designs with up to ten overlapping images: Background pop-up lists, help boxes, and alternate input fields.

Panel builds in a user interface for keystroke movement within and between fields, supplies validation routines for checking user field entries. Diverse attributes may be selected for any field — size, data type, color, conversion of input to upper case; clearance of existing data when new entry is started; masks for standard formats (eg, dates); phrases which fill in when their first letter is typed; multiple-choice lists from which to choose by cursoring a highlighted bar. Fields may be multi-lined and scrolled if larger than the screen space allotted them. Specify: S0400 & Compiler. List: **$295**, Us: **$229**

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We refund the purchase price of any product returned within 30 days in entirely resalable condition. **You can even try out programs themselves** if product code begins with E, T, or L through N — even if it means breaking the disk seal. Some developers do pose limits, so for products beginning with other letters, opening sealed disks constitutes acceptance. But you can at least review the manual. There's just nothing stopping your buying from PC Brand.

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GREENLEAF FUNCTIONS *Bountiful Harvest*

C source, assembler source, and binary libraries of 225 functions for many compilers. Emphasizes tight functional groupings to minimize loading code which your application may never use. Manual helps select functions, bulletin board, too.

A sampling: *DOS* extensions for file and directory manipulation; *Screen:* to select mode, page, monochrome or color, palette; cursor shape, positioning; clearing and scrolling; pixel get and put; read light pen. *Strings:* Center, justify, etc.; efficient list operations which add, delete, sort string pointers for top speed. *Other:* graphics character primitives, keyboard status, function key assignment, time/date, read registers and memory size, peek and poke. Mature best-seller. Specify: S0770 & Compiler. List: $185, Here: $139

PFORCE *Phoenix Pfunction Pfestival*

Lotus® didn't do badly pulling it all together in one place. Phoenix has followed suit with the ultimate integrated C library, offering everything from low level functions for hardware access to complete b-tree database management. Along the way are prerequisites such as string manipulation, time/date, field and screen editing, but also four styles of menus (Lotus included), windowing, background tasking, DOS interfaces, directory management, even interrupt-driven communications. Design emphasizes objects, so characteristics of windows, databases, records and fields can be initiated and changed outside functions.

One large collection in place of bits and pieces means one set of instructions and PforCe™ has tutorials, extensive examples, quick reference, and on-line help.

Everything in source, no royalties, all memory models of Lattice, M'soft. Specify: S0220 & Compiler. List: $475, PCB: $349

GREENLEAF COMMUNICATIONS *Hello World*

Want your application to communicate with other users or remote date bases by asynchronous communications built right into your C programs! Even if you don't need it now, that's a skill to have at the ready!

120 functions *and demo programs in both C and assembler source code* set up separate transmit and receive ring buffers for up to 16 simultaneous channels. Interrupt driven so you can halt an incoming record, display it, file it, let the user edit it, then continue. Goodbye separate communications software.

Supports up to 9600 baud, ASCII or binary, any parity or word length, 8250 UARTs, Xon/Xoff and Xmodem, WideTrack receive. Specify: S0750 & Compiler. List: $185, Us: $139

PRE-C *Pick the Lint from Your Program*

PRICE SLASHED!

Pre-C is like UNIXs lint. It finds problems your compiler won't. Problems that a debugger will have trouble figuring out. Even problems which will cause trouble with other compilers.

Compilers see one module at a time. Modules only meet at link time. Pre-C looks at *all modules at once* and reports conflicts in data type declarations; function call parameters which disagree with functions, machine-dependent expressions which inhibit portability. It spots obsolete usage (even C changes), casts with suspect conversions, variables never used, functions never called, unreachable code. Adheres to UNIX System III compile standard to ensure your portability. Ask for: P0590, List: $295, Ours: $208

DAN BRICKLIN'S DEMO PROGRAM *Storyboard Your Program*

The Legendary One has created Metaphor Two when the rest of us are still on Zero. Dan's first was the original electronic spreadsheet (VisiCalc™). This one is for programmers.

Words don't express program ideas because programs are screens! Dan's Demo creates slide shows. Create a screen — a snapshot of your planned product as it runs. Anything goes: words, borders, box rules, inverse and underlining of monochrome, fore- and background color. Copy this "slide" to an empty screen. Change it a little, to show the next instant of run-time. Do it again. Presto, a whole slide show of your program in action.

All 250 characters and attributes are available from scrollable lists which pop to the screen. All commands are layered in Lotus-style pop-up menus. Frequent choices mapped to function keys as well. 80x25 character mode, not bit-mapped.

Screen areas can be blocked for cut and paste or filled with color or characters, even blink. Slides can overlay on others, can be shuffled, deleted. Slides can proceed at time intervals or branch anywhere in the slide sequence depending on user keyhits.

Invaluable to prototype the program you are about to write, to position the labels, choose the color decor, smoothe out the keystroke interface. Or load the "capture" utility and snapshot the screens of any running program for an instant slide show.

Each copy entitles you to redistribute fifty of the slide projector program that runs demos. Plain manual, no binder keeps price of big product small. "Might . . . become *the* essential tool in . . . user interface prototyping," *Tech Journal.* Ask for: N0100. List: $75 US: $69

BASTOC OPTIMIZES! *Translates BASIC Into C*

For a trifling price, BASTOC™ moves truckloads of BASIC code over to C. It's a translator which takes in Microsoft Extended BASIC and emits pure K&R C for Lattice 3.0. It will optionally convert your program into a single monolithic C function or decompose it into separate functions, one for each GOSUB label.

Version 2's optimization dramatically reduces execution time. Converts to integers those variables in BASIC programs which do not need floating point. Where BASIC uses full assignment statements to increment counters, BASTOC converts to C's compact form. Strings dynamically allocated ridding your application of BASIC's catatonic halts for garbage collection. Creates structure of even convoluted BASIC code. Huge worksaver.

Ask for:	List:	PC Brand:
S0375	$495	$399

Shopping List for the Power Workbench

	LIST	OURS
ASSEMBLERS & DEBUGGERS		
Advanced Trace-86 *Morgan, ASM Interpreter*	175	149
Codesmith-86 *Debugger by Visual Age*	145	109
Cdebugger *by Micro-Software Developers*	165	139
CSD Debugger *C source level by Mark Williams*	75	75
C-Sprite Debugger *by Lattice, source level*	175	139
Microsoft Macro Assembler *with Utilities*	150	109
PASM86 *by Phoenix, Macro Assembler*	195	144
Periscope I Debugger *Data Base Decisions*	295	269
Periscope II *Data Base Decisions*	129	111
Pfix86 Plus *by Phoenix, Symbolic Debugger*	395	279
BASIC LANGUAGE		
BetterBASIC *Summit Software*	195	165
BetterBASIC Utilities *8087 Math Support*	99	85
Btrieve Interface	99	85
Run-Time Module	250	225
Microsoft BASIC Interpreter *for XENIX*	350	295
Microsoft QuickBASIC Compiler *full BASICA*	99	79
Professional BASIC *by Morgan*	99	79
RM/BASIC *by Ryan-McFarland*	600	480
True BASIC *True BASIC Inc*	150	119
Run Time Module (Price slashed)	150	119
True BASIC Libraries *Btrieve, Asyn, Sort, etc.*	Var	Call
C COMPILERS		
C-86 Compiler *Computer Innovations*	395	289
Lattice C Compiler *from Lattice*	500	299
Let's C Compiler *by Mark Williams*	75	69
with CSD Source Level Debugger	150	129
MWC-86: Mark Williams C Development	495	369
Microsoft C Compiler *4.0*	450	295
C INTERPRETERS		
C-Terp *by Gimpel Software*	300	249
Instant C *by Rational Systems*	500	395
Interactive-C *by IMPACC with debugging*	249	219
RUN/C Professional *from Lifeboat*	250	185
RUN/C *without Loadable Libraries*	120	109
TEXT EDITORS		
Brief *from Solution Systems*	195	Call
Epsilon *by Lugaru Software, like EMACS*	195	169
FirsTime *by Spruce Technology, C syntax*	295	229
Kedit *by Mansfield, similar to Xedit*	125	115
LSE, the Lattice Screen Editor *Multi Window*	125	100
Pmate *by Phoenix, with Macros*	195	149
Text Management Utilities *Grep, splat, diff, etc.*	120	100
Vedit *by Compuview*	150	119
Vedit Plus *by Compuview*	225	180
FILE MANAGERS		
Btrieve *by Softcraft, no royalties*	250	195
Btrieve Network *by Softcraft*	595	465
c-tree *by FairCom — no royalties, source*	395	329
dBC *dBASE file manager from Lattice*	250	195
with source	500	390
dbVista *single user DBMS by Raima*	195	159
dbVista *multi-user DBMS*	495	429
Opt-Tech Sort *Can sort Btrieve files*	149	119
SCREEN MANAGEMENT & DESIGN		
Curses *by Lattice, UNIX screen designer*	125	99
with Source	250	199
Greenleaf DataWindows *New*	225	169
with Source simultaneously	395	297
Source purchased later	225	169
On-Line Help *from Opt-Tech Data*	149	119
Panel *by Roundhill, no royalties*	295	229
View Manager for C *by Blaise*	275	209
Vitamin C *by Creative Programming*	150	139
Windows for C *Vermont Creative Software*	195	149
Windows for Data *includes Windows for C*	295	259
ZView *Data Management Consultants*	245	199

	LIST	OURS
GRAPHICS		
Essential Graphics *by Essential, no royalties*	250	210
GSS Graphics Development Toolkit	495	375
GSS Kernel System *by Graphic Software*	495	375
GSS Kernel System *for IBM RT*	795	645
GSS Metafile Interpreter	295	235
GSS Plotting System	495	375
Halo Graphics Kernel System	300	219
with Dr. Halo II, by Media Cybernetics	440	299
COMMUNICATIONS		
Asynch Manager *by Blaise, for C or Pascal*	175	149
Greenleaf Communications *by Greenleaf*	185	139
PTel *by Phoenix, Binary File Communicator*	195	149
Software Horizons Pack 3	149	119
UTILITY LIBRARIES		
Blaise C Tools Plus	175	149
Blaise C Tools	125	109
Blaise C Tools 2	100	89
C Food Smorgasbord *by Lattice*	150	109
C Utility Library *by Essential, 300 functions*	185	139
Greenleaf Functions *by Greenleaf Software*	185	139
PforCe *by Phoenix, vast library*	475	349
Software Horizons *Packages*	Var	Call
TopView Tool Basket *by Lattice, source avail*	250	199
DEVELOPMENT TOOLS		
Code Sifter *by David Smith Software, Profiler*	119	99
C-Worthy *by Custom Design Software*	295	269
C-Worthy for Network *Menus, help, errors*	495	449
Dan Bricklin's Demo Program *Prototyper*	75	69
LMK from Lattice *by Lattice, "make" like UNIX*	195	149
Microsoft Window Development Toolkit	500	365
PC-Lint *by Gimpel Software, after UNIX's "lint"*	139	125
PFinish *by Phoenix, EXE performance analyzer*	395	279
Plink86 Plus *Utilizes memory for overlays*	495	359
Pmaker *by Phoenix, like UNIX "make"*	125	105
Pre-C *by Phoenix, UNIX "lint"alike*	295	208
Pfantasy Pac *six Phoenix products*	1295	895
OTHER TOOLS		
BASTOC *by JMI, convert BASIC to C*	495	399
BASIC-C *BASIC's functions added to C*	175	139
The HAMMER *by OES Systems*	195	179
Report Option *by Softcraft, Btrieve Report Gen.*	145	128
Xtrieve *by Softcraft, Query Utility for Btrieve*	245	220
FORTRAN COMPILERS & UTILITIES		
ACS Time Series *by Alpha Computer Service*	495	469
Forlib- Plus *by Alpha Computer Service*	70	59
Microsoft FORTRAN *Links with Microsoft C*	350	219
Microsoft FORTRAN *for XENIX*	695	546
Pro FORTRAN *by Prospero*	390	345
RM/FORTRAN *by Ryan-McFarland*	595	Call
Scientific Subroutine Library *by Peerless*	175	149
Scientific Subroutine Package *by Alpha*	295	269
The Statistician *by Alpha Computer*	295	269
Strings & Things *by Alpha Computer*	70	59
OTHER LANGUAGES & UTILITIES		
Microsoft COBOL Compiler	700	499
Microsoft COBOL Compiler *for XENIX*	995	795
Microsoft COBOL Tools *with Source Debugger*	350	259
Microsoft COBOL Tools *for XENIX*	450	333
Microsoft Lisp *New Common Lisp*	250	189
Microsoft MuMath *Includes MuSimp*	300	199
Microsoft Pascal Compiler *Links with M'soft C*	300	199
Microsoft Pascal Compiler *for XENIX*	695	546
Pro Pascal *by Prospero, ISO Validated*	390	345
RM/COBOL *by Ryan-McFarland*	950	675
RM/COBOL 8X *ANSI 85 COBOL*	1250	995
Source Print *Aldebaran's diagrammer*	139	109

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Picking over features of rival products is not necessary if FORTRAN is your need, still the citadel of scientific and engineering work. Ryan-McFarland has left the competition battering at the gates.

RM/FORTRAN™ is a complete implementation of FORTRAN-77 (ANSI X3.9-1978), the only PC FORTRAN certified by the General Services Administration at the highest test level. The reason: it's a big mainframe compiler moved to PCs, with the bonus that mainframe and mini applications can wander between environments.

Now, on your PC, you can develop large applications, with programs up to 640k (bigger using overlays), arrays over 64k, and using a long list of VS, VAX and FORTRAN-66 extensions you may have grown fond of — long symbolic names, "include", IRT bit functions — because R-M has left out nothing.

But what really sets RM/FORTRAN apart is optimization. The compiler reduces the number of instructions to the minimum which will actually execute, and even takes advantage of each processor's features to deliver lightning-fast object code. It runs 30%-40% faster than Microsoft 3.2, and could make your mainframe not worth the trouble.

Comes with an interactive symbolic debugger like that accompanying IBM VS FORTRAN, Plink86 subset, has a cross reference compile option, supports assembler and C subroutine calls, IEEE floating point, 8087 and 80287 chips.

"Compiler's documentation, ease of use, speed of execution, and debugger facilities place it first for recommendation" said the *Tech Journal* (10/85).

R-M has been writing FORTRAN compilers for IBM, DEC, etc. for 20 years. There is no greater expert.

Ask for:	List:	PC Brand:
I0300	$595	**Call**

RUN/C PRO

C Interpreter Links Binary Libraries

Run/C comes in an apprentice and pro version. The professional model dynamically loads and unloads multiple binary function libraries like C-Food Smorgasbord™ and Halo Graphics™ — potentially any library compiled with Lattice's large model. Inside this interpreter your C program can reach for functions in the best of commercial libraries.

This C interpreter behaves like PC BASIC meets WordStar® . Use fullscreen editing to create a program. RUN it. If it stumbles, LIST it, EDIT it, RUN it again, fix it again. Use familiar commands like LOAD, MERGE, SAVE, FILES, even TRON and TRACE.

Ideal for program development. Put up code at high speed, try out things devil-may care, let RUN/C find your malaprops. Blast away until tight little code segments are undyingly faithful.

Lots more features: system interrupts, a shell command to invoke any operating system command without leaving Run/C, debugging aids ingeniously installed as a Run/C function. Call for debugging conditionally from within your program, a specific function or a menu of aids including immediate mode, single-step tracing, changing of variable values.

Manual shows how to develop the interface to a commercial library, using the Lattice compiler (a must!). Link your own function archive the same way. (320k minimum; 512k recommended to fit libraries.)

Ask for: S0950 List: $250 PCB: $185

PLINK86 PLUS

Cached Overlays Maximize Memory Use

Long the overlord of overlay linkers, Plink86 shoehorns large programs into small machines by swapping program segments in from disk to save memory. A 512k program could run in a 128k machine, for example. But Plink86 Plus is smarter still: if it finds itself in a larger machine, it moves program overlays into leftover memory. Overlays now swap at memory speed not disk speed. Can automatically restore a displaced overlay to which a subsequently called overlay must now return, and assign library modules to the root segment or overlay areas. Plink86-Plus: List: $495. Us: $359.

LATTICE C COMPILER

Major Upgrades to the Best Selling C Compiler

Lattice now embraces key UNIX™ enhancements which have entered the language since K&R: void functions returning no value, enumerated data types to assign stepped values to variables, data passing between structures by assignment.

The greatly expanded libraries (325 functions!) enable the file sharing and record locking provisions of DOS 3.1, provide a full complement of transcendentals, and a host of utilities to mimic the UNIX and XENIX™ environments.

Lattice 3.0 defaults to the ANSI proposed standard when you need strict adherence, but command line options restore leniency. And it adopts ANSI checking of external function arguments by data type to kill bug swarms when modules join up at link time.

Lattice now delivers smaller .EXE files, boasts very fast link times and a more efficient aliasing algorithm. New options generate code to use 80186 and 80286 features; 8087 of course sensed and utilized. Lattice has enjoyed pre-eminence so long that developers have created far more snap-on tools for Lattice C than any other compiler. William Hunt's *PC Tech Journal* review of 12 compilers awarded Lattice the only "very good" rating for add-on library availability.

Ask for:	List:	PC Brand:
S0100	$500	$299

FOREIGN POLICY

We ship anywhere. Phone or Telex your order. Credit cards: We need card number, expiry date, name and address of card. Or wire funds to PC BRAND, c/o Chemical Bank, 126 East 86th St., NY NY 10028, Account No: 034-016058. **We'll ship immediately** and confirm by Telex if you provide number.

BETTER BASIC

Convert Microsoft BASIC. Structured, Compilable.

Combines the familiarity of BASIC with the best features of C, Pascal, and Modula 2, yet BetterBASIC is 100% compatible with Microsoft's GW™ BASIC and IBM BASICA including graphics, sound, and assembly language calls. So load your old programs and RUN. SAVE and they are converted automatically to BetterBASIC!

It's big: Needs 192k; programs can go to the PC's full 640k. It's comfy: Behaves like M'soft BASIC at the interactive level, with a full-screen editor, direct statement execution, and always poised to RUN. It's fast: Each statement checked and compiled once, not every time encountered. Sieve runs *6 times faster* than with M'soft.

C-like structures house file records so goodbye to FIELD, MKI$, CVD, LSET, etc. Named "procedures" replace GOSUBs to linenumbers. Lots more features: built-in linker for compiled modules; trace; debugging breakpoints; cross-reference command; 32k strings; DOS and BIOS calls and interrupts; recursion. Run-time module stores object code for redistribution.

Ask for::	List:	Us:
S1200 BetterBASIC	$195	$165
S1201 Run-time Module	$250	$225
S1202 8087 Interface	$ 99	$ 85
S1205 Btrieve Interface	$ 99	$ 85

GSS GRAPHICS SYSTEM

ANSI CGI STANDARD!

PRICES CUT!

Leave the Device Driving to GSS

GSS™ has reconfigured two components of its comprehensive graphics tools to conform with the ANSI Computer Graphics Interface (CGI) standard.

At the heart of the system is the Development Toolkit which contains all language interfaces and device drivers for keyboards, mice, joysticks, tablets, printers, plotters, cameras, and more. Drivers house management of vector graphics (plotters) and bitmaps used by raster input devices (scanners) to insulate the application program from concern for device idiosyncracy. No one else has implemented CGI that way. It means your programming remains generic; just switch drivers and the same program will drive a different device.

GSS Kernel™ conforms to level 2b of ANSI's Graphical Kernel System (GKS) and contains all its needed drivers and language bindings. Kernel has macro level tools to draw and color an object, store the sequential instructions, and recreate the object on its own, as well as segment it, transform it, etc. So powerful, a single command may represent several score lower level statements.

Plotting has the equivalent GKS tools for graph and chart generation and their captioning: hand it apples and oranges, say "pie", and it bakes the numbers into a digestible display for screen or plotters.

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GS025 Kernel for IBM RT	$795	$645
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CIRCLE NO. 359 ON READERS SERVICE CARD

"RTDs AND THERMOCOUPLES"
Miller, Eric M. Tech Notebook. 4:6 (Jun 1986):47.
Platinum resistance temperature detectors (RTDs) are highly accurate when measuring temperatures within the range of −200 to +600 degrees Celsius. Accuracies to 0.1 degree Celsius are obtainable, and repeatability can be within .01 degree. Thermocouples are suitable for measuring temperatures with wide ranges or for high temperatures of up to +2,300 degrees Celsius. Figures illustrate methods for interfacing each type of temperature measurement to a data acquisition board.

RUN/C PROFESSIONAL—Lifeboat Associates
"State of C Interpreters, The." 4:5 (May 1986):153-163.

RUNCHAL, AKI, LARRY PRESS, and CLEMENT TAM
"FORTRAN Pitfalls." 1:2 (Sep/Oct 1983):150-156.

RX-80—Epson America, Inc.
"Epson Technical Comparison." 1:2 (Sep/Oct 1983): 130-134.
"Epson's New RX-80 and FX-80." 1:2 (Sep/Oct 1983): 125-128.

S

"SAFE LANDING FOR HARD DISKS"
Lesser, Murray. 3:12 (Dec 1985):147-157.
When moving a hard disk, it is a good idea to position the hard-disk head over an empty cylinder on the disk. By doing this, data are not lost if the head is jarred into physical contact with a data track. A short assembly language program called LANDER.COM is described that provides a fast and easy way to reposition the hard-disk head. LANDER cannot be used with the PC/AT and may not work correctly with all IBM compatibles. Figures show copies of screen displays produced by the program. *Letter References— 4:4 (Apr 1986):21.*

"SALES TAX AND SOFTWARE: NOTHING IS SIMPLE"
Oppenheimer, Max Stul. Legal Brief. 1:4 (Jan 1984): 196-198.
One of the most important questions being raised in the computer industry concerns the status of software; should it be considered a service or a good? Some states tax software only if it is "transactional" (a program designed to perform specific functions). "Operational" software, programs that control the hardware of the computer, is not taxed. No general decision has been made, and courts deal with the issue on a case-by-case basis.

"SAME LANGUAGE, NEW ARCHITECTURE"
Mirecki, Ted. 3:10 (Oct 1985):48-59.
The IBM Macro Assembler 2.0 and the Microsoft Macro Assembler 3.01 are new versions of long-established products that provide support for the 80186/286 processors and the 8087/287 numeric coprocessors. The Microsoft assembler is considered superior because it supports the 80286 processor in all modes, while the IBM assembler supports the processor in real-address mode only. Microsoft's product supports the full 80287 instruction set, while the IBM assembler supports only the 8087 subset of the 80287. The assembly speed of the two products is essentially identical. Several comparison tables and a benchmark program listing accompany the article, as does a sidebar on 8087 emulation.

SANDLER, COREY
"Backing Up the AT With FileSafe." 2:6 (Dec 1984): 150-153.

SANDSTAR MEMORY—Maynard Electronics
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

SANFORD, ROBERT
"System/34 for the Microcomputer." 3:5 (May 1985): 193-197.

SARNAK, NEIL and ERIC JAFFE
"8087 Performance Considerations." 1:2 (Sep/Oct 1983):30-47.

"SAVING SPACE IN TURBO"
Figueras, John. Tech Notebook. 3:6 (Jun 1985):39.
The use of .CHN files to compile programs in Turbo Pascal can save disk space and create user-friendly programs. The .CHN option in the Turbo Pascal compiler allows one program to chain to another. The article includes a Turbo Pascal listing of a program to illustrate program chaining. *Letter References—3:9 (Sep 1985):16-17.*

SBB PASCAL—Software Building Blocks
"Pascal Times Four." 2:1 (Jul 1984):58-72.

SCANLON, LEO J.
"Alarm for the AT, An." Programming Practices 4:4 (Apr 1986):179-182.

SCHREINER, WALTER, MICHAEL KRAMER, SIMON KRISCHER, and YEDIDYAH LANGSAM
"Nonlinear Least-squares Fitting." 3:5 (May 1985): 170-190.

SCHWADERER, W. DAVID
"CRC Calculation." 3:4 (Apr 1985):118-133.
"Modems Demystified." 2:1 (Jul 1984):73-88.

SCHWARTZ, RICHARD L. and ROBERT E. SHOSTAK
"AI Challenge, The." Expert Consultant. 4:9 (Sep 1986): 195-197.

SCIENCE/ENGINEERING
"CADD Solution, A." 4:3 (Mar 1986):86-108.
"Data Acquisition." 3:7 (Jul 1985):101-108.
"Digital Designs." 3:3 (Mar 1985):112-121.
"Digital-to-Analog, Analog-to-Digital." 1:6 (Mar 1984): 104-116.
"Digitizing Analog Data." 4: 5 (May 1986):52-71.
"Do It Yourself Digital-Input Port, A." 2:5 (Nov 1984): 193-195.
"Drafting by Design." 4:1 (Jan 1986):50-65.
"Drawing and Analyzing Circuits with Micro-Cap." 1:6 (Mar 1984):88-102.
"Drawing Circuits." 3:5 (May 1985):113-118.
"Elusive Acquisition." Tech Notebook. 4:3 (Mar 1986):46.
"Equation Solving by Formula/One." 4:6 (Jun 1986): 110-125.
"FORTRAN Scientific Subroutine Library." Product Watch. 4:5 (May 1986):201.
"Interactive CAD." 4:9 (Sep 1986):102-129.
"Joystick Metrics." 3:5 (May 1985):99-109.
"KSH-1 Scientific Calculator." Product Watch. 4:7 (Jul 1986):172-176.
"Mathematical Modeling with TUTSIM." 2:1 (Jul 1984): 40-55.
"Mechanical CAD." 4:6 (Jun 1986):80-95.
"Nonlinear Least-squares Fitting." 3:5 (May 1985): 170-190.
"Passing the Lab Test." 1:4 (Jan 1984):75-84.
"Plotting Data." 3:3 (Mar 1985):123-129.
"Poor Richard's Converter: From A to D." 2:3 (Sep 1984):30-41.
"Powerstat." Product Watch. 4:10 (Oct 1986):189-190.
"ProDesign II." Product Watch. 4:4 (Apr 1986):194-197.
"RTDs and Thermocouples." Tech Notebook. 4:6 (Jun 1986):47.
"Simple Circuits, Better Circuits." 1:5 (Feb 1984): 118-156.
"Solving Cubic Equations." Tech Notebook. 3:5 (May 1985):42.
"Statistical Correlation." 4:4 (Apr 1986):126-152.
"Three-Dimensional Modeling." 4:2 (Feb 1986):88-103.
"TK!Solver Equates." 3:9 (Sep 1985):137-159.

"SCIENTIFIC GRAPHICS WITH THE EGA"
Mansfield, Victor. Programming Practices. 3:9 (Sep 1985):163-170.
The high-resolution modes of IBM's Enhanced Graphics Adapter (EGA) are not compatible with older Color Graphics Adapter software. Listings provide procedures and demonstration software that allow users to perform basic scientific graphics using an EGA with a monochrome monitor, including screen dump to Epson-family printers. Performance is enhanced by precalculating row addresses to avoid the need for repetitive multiplications. *Letter References—4:4 (Apr 1986):27-28.*

SCOUT—Computer Insights, Inc.
"File-search Help for PC-DOS." 3:4 (Apr 1985):138-145.

"SCREEN COMPOSURE"
McNamee, Thomas. 3:4 (Apr 1985):149-159.
Display managers are utilities that aid the user in screen design. Two such utilities are the IBM Applications Display Management System (ADMS) and the Digital Research Display Manager 1.0. ADMS can be used with any language that can make machine calls, although the C language is not specifically supported (as it is in the Display Manager). While the Display Manager is a powerful tool, it limits the user to Digital Research products. ADMS is more flexible and easier to use. Tables compare features and list display manager function library calls and control block and variable table structure.

SCREEN—Basic Business Software
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

"SCREEN OF MANY COLORS, A"
Awalt, Don. 2:4 (Oct 1984):145-146.
Using DOS and the PC's ROM BIOS interrupt 10H routines, users cannot display text characters in medium-resolution graphics mode and retain the background color. Assembly language routines are presented that allow users to display ASCII characters in any medium-resolution color without destroying the original color of the screen's background.

"SCREENSPEAK"
Hansen, Augie. 2:5 (Nov 1984):151-170.
Smartcom II (Hayes Microcomputer Products, Inc.) is a communications software package that comes with the Hayes 1200B internal modem for the IBM PC or is available by itself. In addition to the usual communications features, Smartcom II uses the XMODEM protocol and

supports several terminal emulations. File transfer, data capture, terminal emulation, remote access, and construction of macros are described. The documentation is not always easy to use. Screen photos show some menus encountered in using the product. A sidebar with figures describes the XMODEM file transfer protocol.

SDI-ESC—Sigma Designs, Inc.
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

"SEARCHING WITH SOUNDEX"
Madron, Thomas W. 3:4 (Apr 1985):163-168.
The Soundex Algorithm is a method of coding words that sound alike or are spelled similarly so that they can be easily retrieved. The algorithm is briefly described. A spelling checker or any data retrieval system that uses proper names or alphabetic characters as keys can benefit from the application of the algorithm. A BASIC program demonstrates how the algorithm works. *Letter References—3:7 (Jul 1985):18-19.*

SED—DBASE II—Ashton-Tate
"dBASE II with Ambition." 1:9 (Jun 1984):181-191.

"SELF RELIANT, A DATA MANAGER FOR THE"
Roberts, James. 4:10 (Oct 1986):146-165.
TAS-Plus, from Business Tools, Inc. is a data manager that serves as the engine for a modifiable accounting system. The core of the system is written in assembly language; many of the utilities are written in TAS-Plus's internal procedural language. The developer's version includes the source code for these utilities. TAS-Plus is a partial implementation of the relational data model. Benchmark results are listed in a table, and a sidebar provides an overview of the package. Figures show the two forms of TAS-Plus's internal procedural language. Photos show TAS-Plus's main menu and internal menu-driven editor.

"SELF-INSTALLING SOFTWARE"
Mirecki, Ted. Tech Notebook. 3:11 (Nov 1985):55.
The installation of Lotus 1-2-3 from Ashton-Tate can be made an automatic procedure using the assembly language program and batch file that accompany this article. The user no longer needs to specify whether the system is using a monochrome or a color/graphics display. The program determines the video mode, and the batch file installs the appropriate 1-2-3 video driver. This set-up can be modified easily to allow programs other than 1-2-3 to run on different hardware without reconfiguration.

SERIAL/PARALLEL ADAPTER FOR THE AT—IBM
"Analyzing the Advanced Technology." 2:6 (Dec 1984): 40-56.

SERIES 9000 TAPE SUBSYSTEM—Cipher Data Products
"Nine-track Tape Systems." 4:8 (Aug 1986):94-108.

SERIES MTM 80-7000—Emerald Systems Corp.
"Nine-track Tape Systems." 4:8 (Aug 1986):94-108.

"SET IMPLEMENTATION"
Swan, Tom. 4:2 (Feb 1986):108-130.
The use of sets in assembly language programs helps to simplify many applications. The construction of sets, how they are represented in memory, and how to include them in programs are described. An assembly language library of routines dealing with set operations is presented. It can be used in many cases to make users' programs more readable and programming much easier. Figures show sample test code, sample sets, the representation of a set in memory, and sample operations performed on sets. Listings accompany the article.

"SETTING THE AT'S CLOCK"
Fastie, Will. Tech Notebook. 2:6 (Dec 1984):57.
A listing of an assembly language program to set the date and time on the PC/AT's realtime clock is presented. IBM's initialization program will perform the same function, but not as conveniently.

"SEVEN UTILITIES FOR dBASE II"
Lima, Anthony K. 1:9 (Jun 1984):80-112.
Seven utility programs that expand the capabilities of Ashton-Tate's dBASE II are evaluated: dBPlus (Software Banc); dBRx (Gryphon Microproducts); dB/RA (Gryphon Microproducts); dSECUR (Microclear); dUTIL (Fox & Geller); dCROSS (Radix 2 Software); and E/dBASE II (Micro Business Systems). A table compares the features of the utilities. Figures show the dUTIL tree structure and a sample piece of code from dCROSS. A sidebar features ABSTAT (Anderson-Bell), a statistical software package for dBASE II. A table in the sidebar lists the statistical functions of ABSTAT. Listed programs used to test the seven utilities are given.

SHARENET—Novell
"Two Views of the LANscape." 1:4 (Jan 1984):54-65.

"SHARING FILES"
Colsber, William L. 2:5 (Nov 1984):99-115.
EtherNet is a local area network (LAN) available from the 3Com Corp. for use with IBM PCs. EtherNet provides private, public, and shared file types to remove the possibility of overwriting files that may occur in a LAN environment. The semaphore facilities of EtherNet are LOCK, UNLOCK, and WAIT/LOCK, the software controllers of the file handling system. All present software is compatible to this system. Program listings in BASIC and assembly language provide a semaphore facility and illustrate its use. A sidebar briefly covers the approach that Novell is taking with its NetWare series to reduce file contention. *Letter References—3:2 (Feb 1985):23-25.*

SHARPE, WILLIAM F.
"Inside 1-2-3 Worksheet Files." 2:4 (Oct 1984):155-172.

"SHELL GAME, THE"
Glinert-Cole, Susan. 1:3 (Nov/Dec 1983):30-41.
AUTODEX (AutoDex), 1DIR (Bourbaki, Inc.), and FileCommand (IBM) are three menu-driven shell programs for use with DOS. 1DIR and AUTODEX perform well, but AUTODEX's error recovery abilities are limited. FileCommand has fewer features and does not live up to its documentation. Figures show sample screen displays.

SHERMAN, DOUG and PETER LAKNER
"dBASE II Programming Techniques." 1:9 (Jun 1984): 72-78.

SHOSTAK, ROBERT E. and RICHARD L. SCHWARTZ
"AI Challenge, The." Expert Consultant. 4:9 (Sep 1986):195-197.

"SHRINK-WRAPPED ENFORCEMENT"
Oppenheimer, Max Stul. Legal Brief. 3:9 (Sep 1985): 177-179.
The Louisiana Software License Enforcement Act (SLEA) specifies that a software purchaser is deemed to have accepted and agreed to the terms of a shrink-wrapped license. This shrink-wrapped license law may be unfair to purchasers, who may not read or understand the license agreements. In California, a bill has been introduced that will require purchases to be covered by minimum warranties and allow the buyer product return and refund privileges. While the Louisiana bill is thought to be too restrictive, the California proposal may be too protective of the consumer. Enforced protection that strikes a balance between the two approaches is advocated.

"SHRINK-WRAPPED MAGAZINES"
Oppenheimer, Max Stul. Legal Brief. 3:2 (Feb 1985): 169-170.
Wrapping software in plastic shrink-wrap provides the publisher with the opportunity to say that the user read the licensing or other agreement printed on the package before opening it. Publishing source code in magazines may lead to the shrink-wrapping of the magazines for the same protection, which might provide publishers with a redress for programs purchased with a magazine that are not intended as an object to be sold later. Section 117 of the Copyright Act permits copying source code only if it is essential to the operation of the software.

"SIGNIFICANT FIGURES I"
Gray, Robert. 2:4 (Oct 1984):54-62.
An assembly language program is presented to add and subtract floating-point numbers (listing included). What follows is a thorough discussion of the algorithms. A figure shows the algorithms in machine-independent pseudo-code. *Letter References—3:1 (Jan 1985): 14-25; 3:2 (Feb 1985):14; 3:6 (Jun 1985):16-18.*

"SIGNIFICANT FIGURES II"
Gray, Robert. 2:5 (Nov 1984):173-186.
Algorithms for floating-point multiplication and division are illustrated with figures and listings. Listed assembly language multiplication and division routines operate on 32-bit floating point numbers with a 24-bit mantissa. *Letter References—3:6 (Jun 1985): p. 16-18.*

"SIGNIFICANT FIGURES III"
Gray, Robert. 2:6 (Dec 1984):187-206.
Floating-point conversions for I/O are described. Eight assembly language routines (listings included) convert floating-point numbers from ASCII decimal to binary and visa versa. Figures show the decimal number 10.75 in floating-point notation and the binary number 10.75 in integer form. *Letter References—3:4 (Apr 1985):16-19.*

"SIM8051"
Fastie, Will. Product of the Month. 3:4 (Apr 1985):25.
The Sim8051 from Cybernetic Micro Systems is an interactive debugger that allows the PC to run Intel hex format files produced by the CYS-8501 cross assembler. The program divides the screen display into several windows that show past, current, and future code, a flow chart derived from markers in the listing file, the currently selected memory segment, and other information about the program being run. The Sim8051 performs well without additional hardware and gives the 8051/52 software developer the means to test any 8051/52-based product on a PC. A screen display shows Sim8051's features.

"SIMPLE CIRCUITS, BETTER CIRCUITS"
Murray, William H. and Chris H. Pappas. 1:5 (Feb 1984):118-156.
A program that implements the Quine-McCluskey

method for the reduction of Boolean algebraic expressions used in the design of digital circuits is shown. This method is suitable for computer-aided design because it is a tabular technique that is exactly specified. Figures and tables show logical analysis using truth, cube, prime implicant tables, and miniterms. Program listings in Pascal and assembly language routines provide realtime analysis for testing circuits.

SIMTERM—Jim Holtman
"High-tech Mimicry." 2:3 (Sep 1984):46-55.

SINGER, JOHN
"Keystroke Automation." 4:1 (Jan 1986):113-122.

"SINGLE-STEPPING AND TRACING"
Korkut, D. Z. 1:8 (May 1984):130-144.
TRACE is a simple BASIC program that reads an ASCII version of a BASIC program and then produces a new version of the program with trace statements inserted between lines. A listing provides the TRACE program along with recommended debugging procedures.

"SIX NEW SHAPES OF BASIC"
Mirecki, Ted. 4:6 (Jun 1986):52-75.
Seven BASIC interpreters are reviewed: BASICA, bundled with DOS, (IBM); BetterBASIC (Summit Software Technology); Business Basic Extended (BASIS); MEGABASIC (American Planning); Professional BASIC (Morgan Computing); True BASIC (True BASIC); and WATCOM BASIC (WATCOM Products). Tables compare features and list benchmark times. A sidebar concerning the ANSI standard for BASIC accompanies the article. Listings show the same source code written in different dialects of the language. *Letter References—4:9 (Sep 1986):17-22.*

SIXPAKPLUS—AST Research, Inc.
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

"SIXTEEN-COLOR GRAPHICS"
Chandler, Richard, Michael Davis, and Gary Faulkner. Programming Practices. 4:8 (Aug 1986):159-171.
Clever programming provides 16-color, 80-by-100 graphics on the IBM Color Graphics Adapter (CGA). A text mode with 2-by-8 pixel characters is used in the process, which involves splitting each character into two blocks for higher resolution. The demonstration program, written in Turbo Pascal, plots a fractal curve. Figures show a sample screen produced by the program and the process by which a 2-by-8 character is split into two graphics blocks. The program listing accompanies the article.

"SLEEK BACKUP"
Duntemann, Jeff. Product of the Month. 3:10 (Oct 1985):31.
Fastback by Fifth Generation Systems uses sophisticated multitasking techniques to provide extremely rapid and space-efficient hard-disk backups for the PC, PC/XT, and PC/AT. Tests show that Fastback can back up 7.5MB of files to a diskette in 6 minutes on an XT. Backup of 9.4MB of files from an AT to high-density diskettes took 4 minutes. Fastback copies file by file to a proprietary diskette format that saves 10 to 15 percent more disk space than the standard DOS format. The backup program is copy protected; the restore program is not. *Letter References—4:1 (Jan 1986):20-22.*

"SLIMMER PASCAL, A"
Armbrust, Steven and Ted Forgeron. Programming Practices. 3:10 (Oct 1985):173-183.
Seven steps are given that will reduce the size and increase the speed of Microsoft Pascal programs. The basic ideas are to remove debugging features after a program is made fault-free and to replace big runtime routines with customized assembly language routines. When applied to a sample program, the seven steps caused a 70 percent size reduction coupled with a considerable increase in execution speed. Listings show the program before and after size optimization. A table shows the the size decrease brought about by each step. *Letter References—4:4 (Apr 1986):26.*

"SLOTLESS CLOCK, A"
Duntemann, Jeff. Product of the Month. 4:9 (Sep 1986):29.
Clock from Microsync, Inc. is a small circuit board containing only a clock chip and a battery. It plugs into the PC/XT's 8088 socket; the 8088, in turn, plugs into a socket on dClock. Thus, users can complete their XT system with a battery-operated clock/calendar without having to tie up an expansion slot with an entire (and perhaps unnecessary) multifunction board.

SMALL, DAVID
"Futility of Copy Protection, The." 3:12 (Dec 1985): 71-77.

SMART ALEC—Digital Communications Associates
" 5251 Connnection, The." 4:7 (Jul 1986):76-89.

SMART-CAT PLUS—Novation, Inc.
"Communicating from Within." 3:9 (Sep 1985):60-77.

SMARTCOM II—Hayes Microcomputer Products
"Screenspeak." 2:5 (Nov 1984):151-170.

SMARTERM 100—Persoft, Inc.
"High-tech Mimicry." 2:3 (Sep 1984):46-55.

SMARTKEY—Software Research Technology
"Keyboard Shortcuts." 3:10 (Oct 1985):131-144.

SMARTMODEM 1200B—Hayes
"Communicating from Within." 3:9 (Sep 1985):60-77.

SMARTWORK—Wintek Corp.
"Drawing and Analyzing Circuits with Micro-Cap." 1:6 (Mar 1984):88-102.

SMF/AT210—Sigma Information Systems
"Beyond COM2." 4:9 (Sep 1986):68-79.

SMITH, BOB
"Chips in Transition." 4:4 (Apr 1986):56-69.
"Two APL Systems: A Comprehensive Review." 1:3 (Nov/Dec 1983):135-167.

SMITH, BOB and THOMAS PUCKETT
"Life in the Fast Lane." 1:7 (Apr 1984):62-74.
"Time on Your Hands." 1:8 (May 1984):146-161.

"SMOOTH CURVES"
Covington, Michael A. 4:8 (Aug 1986):110-120.
Humans find it easy to link a string of dots together in a smooth curve. However, mathematically this is a more difficult process. The most fundamental method can cause unexpected kinks; the spline curve fitting model is more dependable. The subroutine SPLINE illustrates the principle of the procedure. A listing in Turbo Pascal, which accompanies the article, shows a simple use of the subroutine to draw curves between selected points. A figure shows polynomial interpolation between 10 points.

"SMOOTH SAILING"
Brown, Roland M. III. 1:9 (Jun 1984):200-207.
FastBASE from Fourcolor Data Systems, Inc. is a program development tool for use with dBASE II. It is menu driven and creates dBASE II command files for file management, merging multiple files, and creating form letters, reports, and screens. Figures are included to show the fastBASE file maintenance generator and sample operations.

"SNA STRATEGIES"
Krumrey, Art. 3:7 (Jul 1985):40-53.
System Network Architecture (SNA) is made up of clusters of terminals connected by coaxial cables to a controller; the physical network is connected by data lines called logical units (LUs), which in turn are connected by sessions independent of the physical nature of the connection. The seven layers of SNA correspond to the ISO Reference Model for Open System Connection. Three groups of LU types and initiating an LU session are discussed. Four methods for hooking up a PC to an SNA network are included. Figures show various SNA configurations and tables list prices for connections to SNA. *Letter References—3:10 (Oct 1985):20-23; 3:12 (Dec 1985):15.*

"SNOBOL4"
Larson, Richard. 3:1 (Jan 1985):32-43.
Berstis International's Minnesota SNOBOL4 and Catspaw's SNOBOL4+ for the PC are reviewed. SNOBOL4 is a language used for nonnumeric computation, list processing, and string manipulation. It matches patterns easily, redefines the meaning of operators, and is able to manipulate tables directly rather than define them as array variables. Tables summarize SNOBOL4 execution times on Eratosthenes' Sieve and a syntactic recognizer benchmark. SNOBOL4+ is slightly faster, but both compilers are recommended. A sidebar analyzes the utility of SNOBOL4 in humanities and linguistics research. *Letter References—3:8 (Aug 1985):24.*

SNOBOL4+—Catspaw, Inc.
"SNOBOL4." 3:1 (Jan 1985):32-43.

SOFTSTRIP SYSTEM READER—Cauzin Systems
"Softstrip System, The." Product of the Month. 4:5 (May 1986):29.

"SOFTSTRIP SYSTEM, THE"
Duntemann, Jeff. Product of the Month. 4:5 (May 1986):29.
Because paper is the only universal channel for moving information from one set of hands to another, any plans for network penetration must include an interface to paper. Cauzin Systems has produced a data encoding/paper reading system that could make paper a viable channel in the corporate data communications network. A Softstrip is a variable-length pattern that can encode as

much as 30KB of data on an 8½-by-11-inch sheet of paper. The reader is placed over the strip, and a scanning carriage within the reader traverses the strip and reads information under the control of a resident DOS utility.

"SOFTWARE GOODS OR SERVICES"
Oppenheimer, Max Stul. Legal Brief. 4:5 (May 1986): 207-208.
One of the fundamental questions of computer law, whether software constitutes goods or services, is discussed. The issue is significant because the Uniform Commercial Code (UCC) creates rights and rules of conduct applicable only to goods, not to services. In the case of RRX Industries, Inc. v. Lab-Con, Inc., the user entered into an agreement to license software and to acquire support. The appeals court concluded that the transaction between the two companies involved goods and that, as a result, the UCC of California applied. This case could set a precedent in this area of computer law.

SOFTWARE PROBE—Atron
"Entomological Explorations." 3:1 (Jan 1985):88-105.
"Untangling Programs." 3:4 (Apr 1985):81-93.

"SOFTWARE PROTECTION"
Fastie, Will. Directions. 1:6 (Mar 1984):11-16.
Three major issues involving software copy protection are examined. First, vendors want to be paid for each copy of the software that they sell. Second, purchasers desire at least one backup copy to protect against the possibility of disk wear and loss of the program. Third, purchasers also want flexibility and ease of use. Most vendors have adopted some form of copy protection to protect their software from being illegally copied.

SOFTWARE SOURCE PROBE—Atron
"Entomological Explorations." 3:1 (Jan 1985):88-105.

"SOFTWARE SPRITES"
Abrash, Michael and Dan Illowsky. 4:8 (Aug 1986): 125-157.
The article discusses ways to make software emulation of the hardware animation capabilities of game machines a realizable goal for the PC. A graphics sprite and a sprite engine are defined, and the design and implementation of a software sprite driver is traced. The Enhanced Graphics Adapter's (EGA) vertical interrupt for regeneration of prioritized sprites during vertical retrace is presented. Emulation of the vertical interrupt is used to implement the engine on the Color Graphics Adapter (CGA). A sidebar discusses the EGA's vertical interrupt status bit. Figures show an electron beam scan, AND/OR driver operation. Listings and sample programs are provided for both the EGA and the CGA version of the driver.

"SOLVING CUBIC EQUATIONS"
Lether, Frank G. Tech Notebook. 3:5 (May 1985):42.
A BASIC program solves general cubic polynomial equations. Using Cardan's formulas, the program calculates the roots of a cubic equation to five significant digits.

"SOME TECHNICAL ASPECTS OF dBASE II"
Cowart, Robert. 1:9 (Jun 1984):56-63.
The author explains various technical aspects of dBASE II and gives suggestions for making better use of the product. Methods are described for overcoming the limitations of 32 fields per file, 64 active memory variables, and 64 pending GET commands. Three dBASE II features that aid in debugging are noted. Tables list dBASE II specifications and functions and benchmark test results.

"SONY VERSUS UNIVERSAL STUDIOS: SO WHAT"
Oppenheimer, Max Stul. Legal Brief. 1:8 (May 1984): 197-201.
The Supreme Court's decision in the Sony v. Universal Studios case regarding copyright infringement may have important implications for the computer industry. Universal Studios and Walt Disney Products sued Sony, claiming that Sony was liable for "contributory infringement" when some Betamax owners taped the plaintiffs' copyrighted movies. The Court found in favor of Sony.

SOURCE PROBE—Atron
"Entomological Explorations." 3:1 (Jan 1985):88-105.

SPECTRA EGA—Genoa Systems Corp.
"EGA Spectrum, The, Part 1." 4:10 (Oct 1986):80-86.

SPECTRUM—Genoa Systems Corp.
"Drawing Toward Monochrome." 4:1 (Jan 1986):70-77.

SPF/PC—Command Technology Corp.
"In the ISPF Tradition." 4:3 (Mar 1986):113-138.

SPIES, NICHOLAS and MAHLON G. KELLY
"FORTH." 4:9 (Sep 1986):48-61.
"FORTH Programming." 4:10 (Oct 1986):133-143.

"SPINNING YOUR OWN VDISK"
Nisley, Edward. 3:3 (Mar 1985):100-109.
Explanations and modifications make the RAM disk program VDISK.ASM (listed in the DOS 2.0 manual) easier to use. A RAM disk, which emulates a diskette in RAM, is much faster than a physical diskette. Tables and figures show RAM disk space usage and list a configuration batch file. A listing shows 23 changes that make DOS's VDISK.ASM more flexible. Another listing provides RAM disk directory information. See also 3:7 (Jul 1985): 149-156. *Letter References—3:7 (Jul 1985):15.*

SPRAYCAR, RUDY S.
"In the ISPF Tradition." 4:3 (Mar 1986):113-138.

"SQL ON THE IBM PC"
Holsapple, Clyde W. 1:3 (Nov/Dec 1983):72-77.
Structured Query Language/Data System (SQL/DS) is a relational database management tool developed by IBM for use with mainframe data managers. Nonprocedural commands retrieve and process data from tables. Microcomputer SQL as implemented in the data manager KnowledgeMan is discussed and differences are noted between it and mainframe SQL/DS. Figures show how data are organized and queried in the SQL/DS system.

SR-LIB—Software Research
"Checking Out the Librarians." 2:4 (Oct 1984):80-90.

"STALKING THE SOFTWARE BUG"
Hoffmann, Thomas V. 1:8 (May 1984):100-108.
The Program Execution Analyzer (PXA) from Micro Integrations Engineering, Inc. is a single-board logic analyzer. It captures data from the bus with software that allows the user to control the collection and subsequent display and analysis of the data. The data captured by the PXA can be confusing because the view from the bus does not quite match the view from the execution path. Partial listings illustrate these limitations.

STAM, ROBERT B.
"Grabbing Parameters." Tech Notebook. 3:2 (Feb 1985):46.
"Environmental Excavations." 3:2 (Feb 1985):90-98.

STAR-EDIT—Supersoft, Inc.
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

"STATE OF C, THE"
Hunt, William J. 4:1 (Jan 1986):82-108.
Twelve C compilers are reviewed: Aztec C86 3.2d (Manx Software Systems); C Programming System 2.14 (Mark Williams); c-systems C Software Development Package 2.08a (c-systems); Datalight C Compiler 1.06 (Datalight); DeSmet C Development Package 2.41 (C Ware); Digital Research C 1.1 (Digital Research); Eco-C88 2.7 (Ecosoft); Lattice iAPX 86 C 3.06 (Lattice); Microsoft C Compiler 3.0 (Microsoft); Optimizing C86 2.3a (Computer Innovations); Toolworks C for MS-DOS 3.2 (The Software Toolworks); Wizard C Compiler 2.1b (Wizard Systems Software). Tables compare specifications, features, documentation, and benchmarks. *Letter References—4:3 (Mar 1986):15; 4:6 (Jun 1986):17-18; 4:7 (Jul 1986):21.*

"STATE OF C INTERPRETERS, THE"
Franz, Marty. 4:5 (May 1986):153-163.
Four C interpreters are reviewed: C-terp 2.131 (Gimpel Software); Instant-C 1.61 (Rational Systems, Inc.); Introducing C 1.0H (Computer Innovations); and Run/C Professional 1.0P (Lifeboat Associates). Introducing C can be considered no more than an educational tool. Instant C lies at the opposite extreme—it is a powerful, fast, and professional interpreter. Tables compare features and documentation of the four interpreters. Additional tables list restrictions of the C language, editing and debugging features, and performance benchmark resuts. *Letter References—4:5 (May 1986):22.*

"STATISTICAL CORRELATION"
Madron, Thomas W. 4:4 (Apr 1986):126-152.
The uses of multivariate statistics on microcomputers are described. The concepts of a relationship and the measure of association between numbers are introduced. FORTRAN is considered the best language for handling large quantities of numbers. Figures describe positive and negative correlation coefficients; the formula for correlation and its simplifications; means, standard deviations, and correlation matrices. A glossary of statistical terms is provided in an accompanying sidebar. Extensive FORTRAN listings provide a method of performing Pearson product moment correlation on a data sample. *Letter References—4:8 (Aug 1986):15-21.*

STEINER, DAVID D.
"Taking Command in Turbo Pascal." Programming Practices. 4:3 (Mar 1986):161-177.

STEPHENS, JESSIE GUNN
"Making Your Screens Speak for Themselves." 2:1 (Jul 1984):148-158.
"Ten Tips for Improving Your Documentation." 1:5 (Feb 1984):83-90.

STINE, ROBERT, TOM WOTEKI, ALAN FRIEDEN, DOV LEVY, and THOR BESTUL
"Modular Constructions." 2:5 (Nov 1984):72-94.
"Modular Implementations." 2:6 (Dec 1984):154-182.

"STORAGE EXPANSION FOR THE AT"
Hoffmann, Thomas V. 4:2 (Feb 1986):147-150.
IBM has introduced a 30MB disk as standard equipment in the model 239 PC/AT. The disk and new ROM BIOS are available in an upgrade kit for the original AT. The article describes the installation procedure, disk types that are supported by the AT BIOS, and changes in the ROM supplied with all new ATs. Tables show the disk types supported by the AT BIOS as well as benchmark results for sequential and random read tests on the 20MB hard disk, 30MB hard disk, and PC/XT hard disk.

"STORAGE ON A CARD"
Hoffmann, Thomas V. 4:2 (Feb 1986):139-144.
The Hardcard (Plus Development Corp.) integrates a 10MB 3.5-inch Winchester disk and controller on a single expansion card. Installation involves just one screw that secures the card to the rear panel—no cables or connectors are needed. Tables show technical specifications, space allocation under DOS, and benchmark results for sequential and random reads of the disk. The Hardcard is marginally faster than the hard disk of the PC/XT for sequential transfers but considerably faster for longer random seeks. The Hardcard's simplicity of design implies a longer mean time between failures.

STORAGEPLUS—Data Storage Solutions (DDS)
"Ten By Ten." 2:5 (Nov 1984):52-63.

STREAMING TAPE BACKUP—Sigma Designs
"Moving up to Tape." 3:11 (Nov 1985):62-83.

"STRINGS"
Morgan, Christopher L. 2:3 (Sep 1984):111-126.
Nine assembly language string routines that are useful in text editing and database management are listed and explained. Functions are provided for individual strings: case conversion, search, insertion, and alphabetizing. Alphabetizing, comparision, moving, and sorting are implemented for strings in the program listings. *Letter References—2:6 (Dec 1984):26.*

"STRUCTURED BASIC PROGRAMS"
Naddor, Eliezer. 2:1 (Jul 1984):161-182.
User Command Language (UCL) is a user interface specification that encourages good program design and structured programming in BASIC. UCL, first presented in the Nov/Dec 1983 *PC Tech Journal*, is based on a simple command language. This language can be cleanly implemented in BASIC using the block structured programming style. Tables describe the syntax of UCL. A block-structured BASIC program and its blocks are listed and explained. *Letter References—2:6 (Dec 1984):21-26.*

"STRUCTURED DEBUGGING"
Duntemann, Jeff. Product of the Month. 4:1 (Jan 1986):29.
Data Base Decisions' Periscope I and Periscope II are high-end debuggers that provide a hardware solution to the problem of debugging. Periscope's most noteworthy feature is its write-protected memory board called the Submarine, which contains 8KB of static RAM, a push-button switch on the board bracket, and an RCA jack for a remote switch on a cable. Periscope II does not include the protected RAM board but does include a breakout switch that does not require an expansion slot. The Periscope software builds on the debugging standard of IBM DEBUG. *Letter References—4:7 (Jul 1986):21-24.*

"SUCCESSFULLY SEEKING INTERRUPTS"
Duntemann, Jeff. Product of the Month. 3:12 (Dec 1985):29.
IBM's PCWatch allows interrupts to be treated as individual machine events that can be observed, trapped for, and single-stepped. It is not a debugger but is intended for use during the debugging process. An interface to resident debuggers allows PCWatch to drop into the debugger either before a selected interrupt begins executing or after it has executed but before it returns. The program can be useful both when developing software and when customizing commercial software programs.

SUPER ENCRYPTER II—Obsidian Computer Systems
"Encryption Software." 3:6 (Jun 1985):162-179.

SUPER RIO—STB Systems, Inc.
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

SUPERFLIGHT—Kamerman Labs
"Exceeding the Speed Limit." 3:6 (Jun 1985):87-97.

SUPERKEY—Borland International
"Encryption Software." 3:6 (Jun 1985):162-179.
"Keyboard Shortcuts." 3:10 (Oct 1985):131-144.

SWAN, TOM
"Comparing Structures." Tech Notebook. 3:7 (Jul 1985):36.
"MINI-PRINT." Product Watch. 4:5 (May 1986):203-205.
"Nibbler, The." Product Watch. 4:7 (Jul 1986):168-169.
"Print Screen Switch, A." Programming Practices. 3:7 (Jul 1985):162-163.
"Set Implementation." 4:2 (Feb 1986):108-130.

"SWITCHING MODES"
Quedens, Guy and Gary Webb. Programming Practices. 3:8 (Aug 1985):163-173.
The 80286's on-chip memory management is discussed, and listings illustrate two ways to switch between the standard real mode and virtual protected mode. The functions of the 8042 eight-bit microcomputer-chip and the MC146818 RAM chip in this activity are described. A table lists the registers and contents for processor RESET, and a figure shows how CMOS RAM is accessed. *Letter References—3:11 (Nov 1985):32.*

SYMD—D + V Systems
"Entomological Explorations." 3:1 (Jan 1985):88-105.

"SYNTHESIZES TEXT AND DATA, A DATA MANAGER THAT"
Bowman, Joseph V. 4:7 (Jul 1986):142-164.
Metafile from Metafile Information Systems, Inc. is a data manager that integrates text and data management. It is not a relational database system. Screens are generated in the text area and can consist of multiple pages. Metafile provides four methods of producing report output. Queries are built by qualifying records in the currently active data file. Metafile is well suited to applications that use files independently. Benchmark results are listed in a table, and a sidebar provides an overview of the package. Photos illustrate Metafile's data entry and validation and report generation capabilities.

"SYSTEM/34 FOR THE MICROCOMPUTER"
Sanford, Robert. 3:5 (May 1985):193-197.
BABY/34 from California Software Products transports the System/34 minicomputer operating environment to the PC. It is designed to match the System/34 in the use of the RPG II compiler, the Operation Control Language, SORT, the SEU editor, the Screen Format Generator, and the Data File Utility. Good documentation, excellent technical support, graceful error handling, and a robust, easy-to-use system make this an attractive product for those who need a transition from the System/34 to the PC. *Letter References—3:8 (Aug 1985):21.*

"SYSTEMATIC PROGRAMMING IN EDISON"
Hansen, Per Brinch. 1:2 (Sep/Oct 1983):84-88.
The Edison-PC System is an experimental development environment that includes the Edison compiler, an 8088 assembler, an Edison operating system, an editor, and a text formatter. Edison is conceptually similar to Pascal. The Edison-PC System is written in Edison, with the exception of a minimal kernel interpreter that interprets Edison p-code; thus, the system is very portable.

SYSTEMS
"Analyzing the Advanced Technology." 2:6 (Dec 1984):40-56.
"And the Winners Are." Product of the Month. 3:6 (Jun 1985):23.
"Chips in Transition." 4:4 (Apr 1986):56-69.
"Compaq Deskpro 286." 4:8 (Aug 1986):80-91.
"Configurations and Pricing in the IBM Family." 2:6 (Dec 1984):58-70.
"Desktop Mainframe." 3:11 (Nov 1985):86-97.
"8088 vs V20." 4:4 (Apr 1986):73-79.
"8087 Performance Considerations." 1:2 (Sep/Oct 1983):30-47.
"Enhancement by JRAM-2." 3:3 (Mar 1985):92-99.
"Exceeding the Speed Limit." 3:6 (Jun 1985):87-97.
"Expandable Memory." 4:2 (Feb 1986):66-83.
"HP Vectra." 4:10 (Oct 1986):110-130.
"Inside *jr*." 1:8 (May 1984):52-80.
"Intel Bibliography for iAPX 286, An." 2:6 (Dec 1984):140-144.
"Memory Sidecars." 3:2 (Feb 1985):54-63.
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.
"Out from the Shadow of IBM." 4:8 (Aug 1986):52-75.
"PC Power-up Error Codes." 2:2 (Aug 1984):115-118.
"Personally Developed Software." Product of the Month. 3:2 (Feb 1985):26.
"Portable II, The." Product of the Month. 4:6 (Jun 1986):31.
"Slotless Clock, A." Product of the Month. 4:9 (Sep 1986):29.
"Tracing a Bug in the 8088." Tech Notebook. 1:2 (Sep/Oct 1983):106.
"VROOM! Performance Benchmarks for the PC/AT." 2:6 (Dec 1984):108-110.
"What IBM Did Right/Wrong." 1:1 (Jul/Aug 1983):50-56, 169-172.

T

"TABLE LOOK-UP WITH THE PC"
Brickner, Ralph G. 1:7 (Apr 1984):196-207.
An analysis determines the best algorithm for table look-up in BASIC. The three BASIC algorithms timed are

sequential look-up, modified sequential look-up, and binary search. An assembly language version of binary search is also timed. Binary search proves 100 times faster than sequential search for large tables. Surprisingly, the assembly language version of binary search is not much faster than the BASIC version. Listings show all four programs, and tables show benchmark times.

"TAKE III"
Christian, Chris. 3:1 (Jan 1985):64-84.
dBASE III from Ashton-Tate is not a new release of dBASE II but an entirely new program designed for the address space and DOS functions found in the 16-bit environment. dBASE III has many new functions, improved capacities, and faster operation. Conversion from dBASE II to III is difficult because dBASE II has an inconsistent function format. The conversion process consists of converting the dBASE II files to dBASE III files using the Ashton-Tate-supplied dCONVERT program, modifying program files to remove inconsistent format notation, then reorganizing program files to take advantage of dBASE III's conceptual differences. Tables compare commands, functions, and capacities. Figures show sample files.

"TAKETWO"
Forgeron, Ted. Product Watch. 4:6 (Jun 1986):198-200.
TakeTwo (United Software Security) is a hard-disk backup program. It is a replacement for DOS BACKUP and RESTORE and is faster and more convenient to use than the DOS commands. However, TakeTwo is not as fast as Fifth Generation Systems' Fastback. The product uses DOS-formatted diskettes and can format new disks while backing up. TakeTwo is copy protected.

"TAKING COMMAND IN TURBO PASCAL"
Steiner, David D. Programming Practices. 4:3 (Mar 1986):161-177.
An assembly language library of subroutines is presented that allows the user to access COMMAND.COM from within Turbo Pascal. The library uses DOS's memory-management functions to free memory for the command processes and for further subprocesses. Using these routines to work with DOS facilities, Turbo programs can release unneeded memory to the system, instruct DOS to load and run any other executable program, and continue processing after the subprocess is finished. A figure illustrates the freeing up of memory for a DOS application. A table lists the memory-management calls used in the routines. Listings provide the routines and a sample program that makes use of the routines' capabilities. *Letter Reference—4:8 (Aug 1986):21-24.*

"TALE OF TWO MICE, A"
Duntemann, Jeff. 1:7 (Apr 1984):150-172.
Microsoft's Mouse for the PC expansion bus and Mouse Systems' serial PC Mouse are reviewed. The two-button Microsoft Mouse is a mechanical (roller-based) mouse that requires an expansion slot for the interface board. The three-button optical PC Mouse requires an 8-inch-by-9-inch aluminum pad and connects to a serial port. The PC Mouse package contains no graphics support; instead, Mouse Systems gathered all the graphics support into the optional Mouse Window. Tables summarize Microsoft Mouse function calls and Mouse Window functions and procedures. *Letter References—2:2 (Aug 1984):14-16; 4:3 (Mar 1986):186.*

"TALKING TO A MOUSE FROM TURBO PASCAL"
Duntemann, Jeff. Tech Notebook. 2:4 (Oct 1984):63.
Turbo Pascal 2.0 provides a clean interface to the software interrupts, as shown by MOUSKETCH, a computerized etch-a-sketch that interfaces with a mouse driver through interrupt calls. A listing of MOUSKETCH is included.

TAM, CLEMENT, AKI RUNCHAL and LARRY PRESS
"FORTRAN Pitfalls." 1:2 (Sep/Oct 1983):150-156.

TASM—Speedware, Inc.
"PASM, TASM, and CHASM." 3:12 (Dec 1985):161-169.

TAS-PLUS—Business Tools, Inc.
"Self-reliant User, A Data Manager for the." 4:10 (Oct 1986):146-165.

"TAXES BY THE PC"
Oppenheimer, Max Stul. Legal Brief. 1:6 (Mar 1984): 186-192.
Three software packages intended to help prepare tax returns are reviewed: CAL-Q-TAX (Tax Management, Inc.); Micro-Tax (Microcomputer Tax Systems, Inc.); and SofTax (Design Trends). All three are better suited to the tax professional than to the casual user—a simple income tax return can be completed faster using a calculator and a pen. A table compares the products' main features.

"TAXING SOFTWARE"
Oppenheimer, Max Stul. Legal Brief. 4:8 (Aug 1986): 185-186.
Some states treat software encoded on disks the same as music encoded on records and tax the sale to the user; others view computer programming as a service and do not impose a sales tax. California's State Board of Equalization (SBE) has proposed an illogical method for applying sales tax to software. According to SBE Draft Regulation 1502, the sale of software on diskettes as well as software license fees would be subject to tax; however, custom computer programs and programs transferred to the purchaser via telecommunications would not. Four ways to deal with the new regulation are discussed.

TEAMMATE T60—Data Technology Corp.
"Moving up to Tape." 3:11 (Nov 1985):62-83.

TECHNICAL
"Diskette Copy Services." 1:6 (Mar 1984):154-163.
"Documentation That Works." 3:1 (Jan 1985):165-172.
"Encryption Software." 3:6 (Jun 1985):162-179.
"Evolution of the iAPX 286, The." 2:6 (Dec 1984): 118-136.
"Futility of Copy Protection, The." 3:12 (Dec 1985): 71-77.
"Jensen JTK-16 Electronic Tool Kit, The." 1:6 (Mar 1984):166-173.
"New Weapons for Fighting Software Piracy." 1:5 (Feb 1984):71-74.
"Ten Tips for Improving Your Documentation." 1:5 (Feb 1984):83-90.
"Ultralock." Product Watch. 4:3 (Mar 1986):179-180.

TECMAR EXPANSION CHASSIS—Tecmar
"Upgrading a PC to an "Xtra T"." 1:5 (Feb 1984):75-82.

TED—Morgan Computing Co.
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

"TELIOS"
Hansen, Augie. 3:1 (Jan 1985):130-139.
Telios version 2.0 (Genasys Corp.) is a communications software package for the IBM PC. Telios uses the Kermit protocol for file transfer. Data capture is limited by available memory only. XMODEM protocol is also available to the user. The program is not only reliable but also error-tolerant. Minimum configuration: 96KB RAM; single or double-sided disk drive; 80-column monochrome or color monitor; and PC-DOS starting with 1.1. A table lists commands and files. Null-modem cable wiring is diagrammed in a figure. A program listing using Telios commands shows how to logon to a source.

TELIOS—Genasys Corp.
"Telios." 3:1 (Jan 1985):130-139.

TELLO, ERNEST
"Basic To C." 2:4 (Oct 1984):117-140.

"TEN BY TEN"
Hoffmann, Thomas V. 2:5 (Nov 1984):52-63.
Ten 10MB hard disk drives for the IBM PC are reviewed. Tables compare performance of the drives using the Hunt fixed-disk benchmarks listed in the same issue. Hardware, software, and documentation features also are compared. Photos show controller cards and power supplies. Drives recommended for their enhanced function are the Falcon PCeXTender and Maynard WS-2. The best price/performance units are Data Storage Solutions' StoragePlus, Kamerman Megaflight and Qubie PC10. Rated acceptable were the two Sigma drives: HHK-10 and HDK-10. The Mountain Computer and Quadram Quad Disk were not recommended. *Letter References—3:1 (Jan 1985):13; 3:2 (Feb 1985):14.*

"TEN TIPS FOR IMPROVING YOUR DOCUMENTATION"
Stephens, Jessie Gunn. 1:5 (Feb 1984):83-90.
Ten methods that can be used to improve software documentation are presented. The tips include writing the program in clear English, not in jargon; writing to the intelligence level of the intended audience; explaining what the program does, not how it does it; providing practice exercises; using the imperative mood and the active voice; writing short chapters; using an outline; checking spelling, grammar, and punctuation; providing an index; and allowing potential users to read the documentation before it is published.

10MB INTERNAL DISK—Mountain Computer Co.
"Ten By Ten." 2:5 (Nov 1984):52-63.

"TESTING 1, 2, 3, 4, 5"
Chumbley, James. 3:5 (May 1985):142-152.
Five software packages intended for the testing and adjustment of disk drives are reviewed: Recording Interchange Diagnostic (Dymek Corp.); Datalife Disk Drive Analyzer (Verbatim Corp.); Interrogator (Dysan Corp.); Memory Minder (J and M Systems, Ltd.); and ReadiScope (ReadiWare Systems, Inc.). Photos of screen displays are provided for each program. A table compares product features. *Letter References—3:9 (Sep 1985):15.*

TEXTRA JR.—Ann Arbor Software Association
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

TG-4060—Tallgrass Technologies
"Moving up to Tape." 3:11 (Nov 1985):62-83.

TG-6180—Tallgrass Technologies
"Breaking the 32MB Barrier." 4:5 (May 1986):94-108.

"THIRD DRIVE, THE"
Wright, Jack and David Zarodnansky. 3:6 (Jun 1985): 47-55.
An inexpensive alternative to a hard disk is a third diskette drive. A third drive can hold a disk containing frequently used programs, making them instantly available, and cutting down dramatically on diskette shuffling. The required circuitry for two additional diskette drives is already in place on the IBM disk adapter card. The article outlines four steps needed to add external disk drives: setting up the system board, setting up the disk drive, making the power cables, and connecting the drive. *Letter References—3:9 (Sep 1985):15-16.*

3270 PC—IBM
"Programming for the 3270-PC." 3:3 (Mar 1985):74-88.

3270-PC EMULATION PROGRAM—Attachmate Corp.
"Emulating the 3278." 4:2 (Feb 1986):48-63.

THOMAS, KURYAN
"Checking Out the Librarians." 2:4 (Oct 1984):80-90.

"THREE-DIMENSIONAL GRAPHICS FOR THE IBM PC"
Mallin, Jay. 1:8 (May 1984):36-48.
A BASIC program is described that creates and rotates three-dimensional objects on an IBM PC graphics monitor. The objects are vectors defined by sets of points. Hidden lines are not supported. The LINE statement is used to perform the actual drawing operations. Included are data listings for drawing a cube, a diamond, or a pyramid. *Letter References—2:3 (Sept 1984):14.*

"THREE-DIMENSIONAL MODELING"
Wright, Victor E. 4:2 (Feb 1986):88-103.
MEGA CADD's Design Board Professional is a three-dimensional modeling system for the IBM PC. The article details the drawing database, modeling concepts, creation of basic objects, modifying and viewing models, plotting drawings, advanced modeling, and use with other programs. Screen photos display some of the Design Board Professional's capabilities. The product is a conceptual modeling tool and produces wire frame models with or without hidden-line elimination. It is excellent for the creation of details as a supplement to working drawings created with a production drafting system.

3G MODEL 1—AST Research, Inc.
"EGA Spectrum, The, Part 1." 4:10 (Oct 1986):80-86.

TIARA MULTILINK—Tiara Computer Systems, Inc.
"Davong's Multilink: Versatility at a Moderate Price." 1:6 (Mar 1984):78-87.

TIDY—Major Software
"Debugging Duo." Product Watch. 4:3 (Mar 1986): 180-182.
"Well-formatted Pascal, The." 2:4 (Oct 1984):22-33.

"TIME ON YOUR HANDS"
Smith, Bob and Thomas Puckett. 1:8 (May 1984): 146-161.
A common but mysterious DEBUG problem is explained and resolved. The problem is that DEBUG freezes when a single-step interrupt (SSI) and an asynchronous interrupt (ASI) occur simultaneously. The solution is a patch to DEBUG that prevents the SSI - ASI collision. Figures show ASI and SSI behavior before and after the patch. Listings give DEBUG sessions that implement the necessary patch in DOS 1.1 and DOS 2.0. References are also included. *Letter References—2:3 (Sep 1984):14.*

TIME SPECTRUM—Persyst
"Multifunction Boards for the PC." 1:4 (Jan 1984):66-73.

"TINKERING WITH DOS 2.0"
Norton, Peter. Tech Notebook. 1:1 (Jul/Aug 1983):93.
DOS messages and data delimiters can be changed to meet personal preferences. For example, users may want to insert a hyphen between the hour and minutes in the system start-up time rather than a colon. Instructions are provided that alter the COMMAND.COM of DOS 2.0 and allow it to accept the hyphen in place of the colon.

"TK!SOLVER EQUATES"
Wright, Victor E. 3:9 (Sep 1985):137-159.
Software Arts' TK!Solver is a mathematical modeling tool that solves equation and engineering problems. Equations that describe the system to be modeled are entered into a spreadsheet-type form using Visicalc-like syntax. Two methods are used: the direct solve method, which works like a manual method solving the equations with one unknown variable first and the iterative solver, and a numerical method for solving engineering problems. TK!Solver does not have explicit programming constructs, nor does it provide symbolic differentiation or integration, but it can be programmed to behave as if there are IF...THEN or REPEAT...UNTIL constructs.

TK!SOLVER—Software Arts
"TK!Solver Equates." 3:9 (Sep 1985):137-159.

TK!SOLVER—Universal Technical Systems, Inc.
"Equation Solving by Formula/One." 4:6 (Jun 1986): 110-125.

TLC-LISP—The LISP Co.
"PC Speaks LISP, The." 1:7 (Apr 1984):112-148.

"TO SUPPORT OR NOT TO SUPPORT"
Fastie, Will. Directions. 3:8 (Aug 1985):9-10.
IBM, known for its support and service, is criticized for its shortcomings in supporting PC dealers and software developers. Criticisms include the slow update service for manuals and software, the shipment of machines with processors having documented bugs, and defects in the EGA. Apple Computer Inc. is reputed to give better attention to its software developers.

"TOOLS FOR THE PASCAL PROGRAMMER"
Duntemann, Jeff. 3:2 (Feb 1985):102-111.
The Turbo Toolbox is a set of utility routines for use with Turbo Pascal 2.0. Turbo Access manages binary trees, automatically updating index files as keys are added or removed. Turbo Sort uses the Quicksort algorithm to sort data records. The General Installation utility allows installation of compiled Turbo Pascal programs on various computers. A table shows benchmark tests using Turbo Sort routines. Figures illustrate the process of searching for records using tree structures.

TOOLWORKS C—The Software Toolworks
"State of C, The." 4:1 (Jan 1986):82-108.

TOPVIEW—IBM
"Concurrent Environments." 3:12 (Dec 1985):52-65.

"TORT OF COPY PROTECTION, THE"
Oppenheimer, Max Stul. Legal Brief. 3:3 (Mar 1985): 177-180.
One method of protecting software from unauthorized duplication is to design the software to deliberately damage the user's system when a pirated copy is executed. Such protection schemes may leave the software designer liable for damages when sued for performing an intentional tort, which, in turn, may give rise to punitive damages. *Letter References—3:8 (Aug 1985):21-22.*

"TOTAL SOLUTION, THE"
Oppenheimer, Max Stul. Legal Brief. 4:2 (Feb 1986): 193-194.
A hypothetical situation is given in which a microcomputer consultant denies responsibility for any problems that result from a client's purchasing any microcomputer product from another firm. It is easier for consultants to support their software product if they control the hardware on which it will run. Legal and marketing issues should be considered in forcing intimidating contracts on clients. *Letter References—4:6 (Jun 1986):22.*

TOWNSEND, CARL
"dBASE II File Structures." 1:9 (Jun 1984):46-55.

TRACE 86—Morgan Computing Co., Inc.
"Entomological Explorations." 3:1 (Jan 1985):88-105.
"Two New Ways to Drive the Bugs Away." 1:8 (May 1984):110-128.

"TRACING A BUG IN THE 8088"
Fastie, Will. Tech Notebook. 1:2 (Sep/Oct 1983):106.
A bug in the 8088 microprocessor, copyright 1978, permits an interrupt during MOV SS, MOV SP instead of not allowing an interrupt to be recognized until after the the instruction following the MOV to segment register. Visually checking the 8088 chip for the 1978 date is one way to detect the chip. Another method uses DEBUG to display the bug. The DEBUG commands used to trace the bug are provided. *Letter References—1:4 (Jan 1984):16.*

"TRACING EXPANDED MEMORY"
Mirecki, Ted. Tech Notebook. 4:2 (Feb 1986):45.
Users may find it helpful to keep track of the amount of memory provided by an expanded memory specification board that actually is being used. A listing shows the program XMEM.ASM that displays the total expanded memory in the system, the amount allocated for particular applications, and the amount remaining.

"TRANSACTION PROCESSING, A DATA MANAGER FOR"
Karaman, Mark. 4:3 (Mar 1986):142-158.
Data Language Corp.'s PROGRESS is a fourth generation language integrated within a multiuser database development environment that includes an editor, data dictionary, compiler, and security facilities. It has many mainframe-like features. PROGRESS applications can be transported among a variety of systems. This data manager is an effective programming tool. A sample application was implemented in PROGRESS; benchmark results are given in a table. A figure shows PROGRESS files, and a table gives field types and storage requirements. Photos show the help menu and sample displays of data.

TREASURE CHEST—Tecmar, Inc.
"Memory Sidecars." 3:2 (Feb 1985):54-63.

"TREE STRUCTURES, PART 1"
Chaturvedi, Atindra N. 3:2 (Feb 1985):78-87.
Tree structures have many advantages and disadvantages of tree structures. They are an effective way to organize data in a file management system. A B-tree is a data structure that allows insertion and retrieval of data in large files from the keyboard using simple algorithms. B-tree nodes can contain keys, data records, and pointers to other nodes. In a B+tree structure, nonleaf nodes contain only keys and pointers to other nodes (not entire records), permitting more keys in a node of a given size. Figures show a linked list as a tree, a binary search tree, degenerate and unbalanced trees, and record insertion into B+tree and B-tree structures. A table compares the number of seeks required to locate a key using various structures. *Letter References—3:7 (Jul 1985):15-16.*

"TREE STRUCTURES, PART 2"
Chaturvedi, Atindra N. 3:3 (Mar 1985):131-158.
A B+tree file management system called **btsys** gives the user a standard and simple interface to use for keyed access to data files. The program, written in C, is loaded into memory and made resident as an extension of the operating system that is invoked using interrupt 60H. Use of the system and its data structures is described. Figures show interface structures and file-control block structure. Tables list function codes, return codes, and an index file record structure. Source code listings for the modules that make up the system are provided.

TRUE BASIC—True Basic, Inc.
"Six New Shapes of BASIC." 4:6 (Jun 1986):52-75.

"TRUTH ABOUT BASIC, THE"
Volkstorf, J. Edward, Jr. 1:4 (Jan 1984):188-189.
Logical values in IBM PC-BASIC can be treated as numbers, so logical expressions can be placed in arithmetic expressions. This realization permits new ways of writing standard constructs; for example, the IF...THEN operator may be recoded using "less than" and "greater than" operators. The result of these suggested transformations often saves memory at the expense of readability. *Letter References—1:9 (Jun 1984):21.*

"TURBO PASCAL"
Editors. Product of the Month. 3:1 (Jan 1985):187.
Borland International's Turbo Pascal compiler is recognized for its high performance, clear documentation, and low cost. Turbo Pascal includes all of the necessary program development tools in one smoothly integrated and bug-free package. The editor, compiler, and runtime system operate very quickly within a consistent and well-engineered environment. Turbo Pascal's language extensions permit a degree of hardware portability that is not usually found in language systems.

TURBO PASCAL—Borland International
"Approaching the Optimum Pascal." 4:7 (Jul 1986): 94-133.
"Pascal Times Four." 2:1 (Jul 1984):58-72.
"Power of Turbo Pascal, The." 3:2 (Feb 1985):112-123.
"Turbo Pascal." Product of the Month. 3:1 (Jan 1985):187.

TURBO TOOLBOX—Borland International
"Tools for the Pascal Programmer." 3:2 (Feb 1985): 102-111.

"TURBOREF"
Bradford, Charles. Product Watch. 4:3 (Mar 1986):179.
Gracon Services' TurboRef is a utility for Pascal programmers that prints source code and cross references variables. It generates printer rather than screen output. The lister draws boxes around BEGIN/END blocks, highlights reserved words and comments, and places the current procedure name and source file name on every line. Numerous bugs and design flaws mar TurboRef.

TURN-ON—Skyland Systems, Inc.
"Making Connections." 3:5 (May 1985):47-51.

TUTSIM—Applied i
"Mathematical Modeling with TUTSIM." 2:1 (Jul 1984): 40-55.

"12 FUNCTIONAL MODULES OF ANS COBOL, THE"
Pontius, Casey. 1:7 (Apr 1984):76-82.
Four COBOL compilers are tested for adherence to the 12 functional modules of the ANS COBOL 1974 specification: Micro Focus Level II COBOL, IBM COBOL, Ryan-McFarland Corp. RM/COBOL, and mbp COBOL. The 12 modules of the standard are: the nucleus; table handling; sequential I/O; relative I/O; indexed I/O; sort/merge; report writer; segmentation (overlays); libraries; debugging facilities; interprogram communications; and communications. Tables summarize the compilers' features as well as their compliance with the standard. *Letter References—2:1 (Jul 1984):14; 2:4 (Oct 1984):12-14.*

20MB DISK—Express Systems, Inc.
"Replacement Disks for the AT." 3:8 (Aug 1985):74-79.

"TWO APL SYSTEMS: A COMPREHENSIVE REVIEW"
Smith, Bob. 1:3 (Nov/Dec 1983):135-167.
This article reviews IBM APL 1.0 and STSC's APL*PLUS/PC Applications Development System 2.6. IBM APL resembles VS APL with PC-specific additions. To support the APL character set, IBM requires the Color Graphics Adapter in graphics mode, and STSC provides a modified character ROM that generates APL characters in both monochrome and graphics modes. Both provide 8087 support, but IBM's product has serious problems with numeric accuracy. Both have comparable system commands and features. Tables illustrate APL output to the printer. APL*PLUS is judged to be the better product. *Letter References—1:7 (Apr 1984):22; 1:9 (Jun 1984):21.*

"TWO NEW WAYS TO DRIVE THE BUGS AWAY"
Duncan, Ray. 1:8 (May 1984):110-128.
Codesmith-86 and Trace86 are two powerful memory-mapped program-tracing utilities intended for debugging in assembly language. Codesmith is superior to Trace86 for work on programs that perform extensive video output; however, because of its lack of adequate disk commands, Codesmith should be a second choice otherwise. Tables compare the main features of the utilities, and listings show program excerpts for both products.

"TWO VIEWS OF THE LANSCAPE"
Glinert-Cole, Susan. 1:4 (Jan 1984):54-65.
EtherSeries and ShareNet are two local area networks (LANs) for use with IBM PCs. Tables show benchmark tests using DOS 2.0 and hard disks. The two LANs are suitable for a starter system. Though both systems are similar, ShareNet provides file/record locking. A description of the International Standards Organization Open Systems Interconnection Model (ISO-OSI Protocol) is provided in a sidebar. *Letter References—1:8 (May 1984):14.*

2002—Burr-Brown Corp.
"Digitizing Analog Data." 4: 5 (May 1986):52-71.

20017—Burr-Brown Corp.
"Digitizing Analog Data." 4: 5 (May 1986):52-71.

20019—Burr-Brown Corp.
"Digitizing Analog Data." 4: 5 (May 1986):52-71.

U

"UCL: A USER COMMAND LANGUAGE"
Naddor, Eliezer. 1:3 (Nov/Dec 1983):44-58.
The author describes a User Command Language (UCL) of his invention. A UCL is a simple, standard set of commands that can be used without change in numerous programming languages. The author's UCL is implemented as a parser and interpreter composed of BASIC subroutines, which are listed with example applications.

UCSD PASCAL—Pecan Software Systems
"Approaching the Optimum Pascal." 4:7 (Jul 1986): 94-133.

"ULTRALOCK"
Mansfield, Victor. Product Watch. 4:3 (Mar 1986): 179-180.
Ultralock (Business Simulations, Ltd.) is a RAM-resident encryption program that operates transparently by intercepting DOS function calls to the disk. Despite its good user interface and clear documentation, Ultralock is criticized for its proprietary encryption algorithm and for not purging memory when a program is exited.

ULTRAPAK—Tseng Laboratories, Inc.
"Drawing Toward Monochrome." 4:1 (Jan 1986):70-77.

UNETIX—Lantech Systems
"Reflections of UNIX." 3:5 (May 1985):54-73.

"UNIX HERITAGE, A DATA MANAGER WITH A"
Hansen, Augie. 3:12 (Dec 1985):118-131.
INFORMIX-SQL from Relational Database Systems is a single-user DOS version of the company's UNIX-based data manager. INFORMIX-SQL is a relational data management system using a file access system called C-ISAM. The program uses the language RDSQL, an extended version of IBM's structured query language (SQL). INFORMIX-SQL is well suited to the development of demanding and complex applications. Benchmark results are listed in a table, and a sidebar provides an overview of the package. Listings provide sample tests. Figures illustrate INFORMIX-SQL's form and report specification structures.

"UNTANGLING PROGRAMS"
Armbrust, Steven and Ted Forgeron. 3:4 (Apr 1985): 81-93.
Two hardware-assisted debuggers for the PC are reviewed: PDT-PC version 2.2 (Answer Software Corp.) and PC PROBE version 2.0 (Atron). Both use debugging soft-

ware along with a board to provide debugging power formerly possible only with in-circuit emulators. Both products support hardware breakpoints, without affecting the speed of program execution, to accumulate program traces and to recover easily from program crashes. Photos show sample screens. Tables provide performance benchmarks, a sample debugging session, and lists of PDT-PC and PC PROBE commands. A figure shows a sample INITIALIZE macro. A listing provides code for the benchmark program DUMP.PAS.

"UNTYPED VAR PARAMETERS"
Duntemann, Jeff. Tech Notebook. 3:8 (Aug 1985):43.
Turbo Pascal boasts the unique ability to handle untyped variable parameters. The programmer can manipulate the contents of the unknown structure in binary format, a capability that is most useful when debugging. A listing provides a program to dump the bytes of the unknown variable to the screen or to a printer.

"UP, DOWN, RIGHT, LEFT, AND CHECK, PART 1"
Illowsky, Dan and Michael Abrash. 1:4 (Jan 1984): 46-52.
The IBM PC Game Adapter, which supports two joysticks with two buttons each, is reviewed. The theory of joystick operation is explained, and joysticks produced by different manufacturers are analyzed. Joystick programming in BASIC is discussed; listings provide sample program code. *Letter References—2:1 (Jul 1984):26.*

"UP, DOWN, RIGHT, LEFT, AND CHECK, PART 2"
Illowsky, Dan and Michael Abrash. 1:5 (Feb 1984): 93-116.
Advanced BASIC interface to the IBM PC Game Adapter as well as interface to the adapter from assembly language is covered. ON STRIG event trapping in BASIC is explained in detail. A low-level description of the Game Adapter from both an electrical and a software perspective is provided. Figures show memory usage of a joystick and the Game Adapter, and a table shows joystick connector pin assignments. Assembly language listings for joystick interface routines are included.

"UPGRADING A PC TO AN 'XTRA T' "
Glinert-Cole, Susan. 1:5 (Feb 1984):75-82.
Three expansion chassis/hard-disk products for the PC are reviewed: the IBM Expansion Chassis, which comes with a replacement ROM BIOS that permits booting from the hard disk; the Tecmar Expansion Chassis with a 10MB hard disk; and the I-Bus Expansion Chassis, which has no disk of its own. I-Bus can be combined with the Apparat hard-disk drive for a system that is equivalent to the others. A table compares the features of the products. *Letter References—2:1 (Jul 1984):24.*

"UPTOWN PRINTERS"
Foard, Richard M. 3:4 (Apr 1985):49-55.
IBM's Quietwriter and Wheelprinter are reviewed. The Quietwriter, a thermal transfer printer, runs quietly at 40-60 cps. It stores fonts in removable electronic font modules. The Wheelprinter is a daisywheel printer that supports continous forms, hand feeding, and automatic sheet feeding, with rapid switching between paper-feed modes. Photos show special features of both printers. A table summarizes control codes.

"USER'S RIGHTS"
Fastie, Will. Directions. 3:9 (Sep 1985):9-10.
While software users want to run their software conveniently and safely, vendors also demand fair compensation for each copy of their software and the right to market their product fully. Current methods of software protection are unacceptable. A sidebar presents the Bill of Rights for Software Users drawn up and approved by the Capital PC User Group, Inc.

"USING A SWITCH-TYPE JOYSTICK ON THE IBM PC"
McCann, Scott. Tech Notebook. 1:8 (May 1984):195.
The IBM PC resistive-type of joystick is slower than switch-contact joystick used by Atari computers. However, a switch-type joystick can operate in a PC using the circuit provided. *Letter References—2:3 (Sept 1984):20.*

"USING DOS LOOPS"
Hansen, Augie. Tech Notebook. 4:4 (Apr 1986):50.
Sophisticated batch file capabilities, such as looping (FOR and GOTO) were introduced first in DOS 2.0. The general form of the FOR command is discussed, and several examples of its use are given.

"USING ROM CHARACTERS"
Parsly, James. Tech Notebook. 4:8 (Aug 1986):47.
A BASIC program is presented that can label tic marks, plot titles, and *y*-axis titles. GLABEL.BAS is made up of three subroutines. Each takes characters from a table in the ROM BIOS. The first subroutine prints the characters anywhere on the 640-by-200 high-resolution graphics grid; the second prints double-width characters; the third prints the characters rotated by 90 degrees.

UTAH PASCAL—Ellis Computing, Inc.
"Approaching the Optimum Pascal." 4:7 (Jul 1986): 94-133.

V

"VDISK ON COMMAND"
Mirecki, Ted. Tech Notebook. 4:1 (Jan 1986):43.
A Turbo Pascal program called VDISK.PAS can be used to automate the process of creating a RAM disk. Invoked at the DOS prompt, the program changes CONFIG.SYS, it then reboots automatically.

VECTRA—Hewlett-Packard
"HP Vectra." 4:10 (Oct 1986):110-130.

VEDIT—CompuView
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

"VEGA BOARD, THE"
Duntemann, Jeff. Product of the Month. 4:4 (Apr 1986):33.
The VEGA Board from Video 7, Inc. is a cover-all-bases display adapter that handles all four recognized PC display standards. The adapter occupies a short slot in the PC and uses surface-mount technology in order to increase board yields and board reliability.

"VENIX: SETTING UNIX STANDARDS"
Hansen, Augie. 4:2 (Feb 1986):153-159.
VenturCom's VENIX 2.0 is the first UNIX System-V compatible operating system to run on the PC/XT and PC/AT. The AT&T System V interface definition is the intended standard for UNIX systems development. The interface between VENIX and DOS, VENIX's overall performance, and system differences between VENIX and the UNIX System V standard are detailed. Tables list VENIX commands that do not run correctly under UNIX System V, VENIX enhancements, DOS interface commands, and a VENIX system performance summary. A sidebar covers the AT&T System V interface definition.

VENIX—VenturCom, Inc.
"VENIX: Setting UNIX Standards." 4:2 (Feb 1986): 153-159.

VENIX/86—Unisource
"Reflections of UNIX." 3:5 (May 1985):54-73.

VERSACAD—T & W Systems
"Interactive CAD." 4:9 (Sep 198):102-128.

VFEATURE DELUXE—Golden Bow Systems
"Breaking the 32MB Barrier." 4:5 (May 1986):94-108.

"VIDEO FUNCTION CALL FIX"
Norman, Richard. Tech Notebook. 4:7 (Jul 1986):41.
Interrupt 10H, the video service call, does not preserve the BP register contents when the screen is scrolled. An assembly language program is presented that can be installed as a resident program for correcting this problem. VIDFIX.ASM acts as a patch that replaces the interrupt 10H routine in order to allow the BP register to be preserved even in high-level languages.

"VIDEO I/O AND GRAPHICS WITH IBM PASCAL"
Clinger, Barbara. 1:6 (Mar 1984):179-182.
Video output can be controlled using an undocumented function of IBM Pascal. An interrupt call to VIDEO interrupt 10H is stored in PASCAL.LIB. Without this function, performing full-screen control from IBM Pascal is nearly impossible. A listing of the function VDOXQQ and a table of commands are included.

"VIRTUAL GRAPHICS SCREEN, A"
Chandler, Richard and Gary Faulkner. 4:9 (Sep 1986):134-143.
A Turbo Pascal program called VSCREEN.PAS, can be used in association with a user-supplied draw routine to produce high-resolution graphics output to a printer. A virtual graphics screen image is created in RAM, and the image is sent one byte at a time to the printer head. The program is menu driven and provides several modes that allow the screen being created to be viewed or changed. A table shows modifications to the program SURFACE.PAS, which illustrates a typical application of the program. Figures show sample printer plots produced by VSCREEN.PAS when SURFACE.PAS is integrated into the Auto_Draw section.

"VIRTUES OF PATIENCE, THE"
Oppenheimer, Max Stul. Expert Consultant. 4:10 (Oct 1986):199-200.
"There ought to be a law" is not always the answer in the emerging computer industry. The author offers four caveats in seeking simple laws for complicated problems, such as the software copyright issue.

"VISIBLE COMPUTER: 8088"
Duntemann, Jeff. Product of the Month. 3:9 (Sep 1985):25.
Visible Computer: 8088 (Software Masters, Inc.) is a com-

prehensive software course in 8088 architecture and assembly language for the IBM PC. The book/diskette package includes an interactive full-screen debugger, an 8088 simulator, and sample programs in 8088 machine code. The software can simulate internal activities of the 8088 that are not accessible by ordinary programming methods. The product operates on any version of DOS.

"VISIBLE RAM DISK"
Rollins, Dan. Tech Notebook. 4:10 (Oct 1986):43.
RAM disks generally lack a read/write indicatior light. A procedure for patching VDISK.SYS to remedy this omission is given. With this modified version of VDISK the two top leftmost characters of the PC display appear in reverse video whenever the RAM disk is accessed. The commands required to make the patch are included.

"VISUAL QUERIES, A DATA MANAGER WITH"
Fastie, Will. 4:4 (Apr 1986):154-174.
Paradox (Ansa Software) is a powerful data manager with competitive performance and is distinguished by an innovative query-by-example facility easily operated by a novice. The query system and the Paradox Application Language, which can perform all the functions in the interactive environment through the recording of scripts, are examined in detail. A sample application is implemented in Paradox; benchmark results are given in a table. Photos show a typical screen, the report design tool, and a multitable query. Figures illustrate a programmed query and examples of menu sequences. A sidebar summarizes the capabilities of Paradox.

VISUALL—Trillian Computer Corp.
"Pop (Up) Goes the Mouse Menu." 2:2 (Aug 1984): 74-84.

VML PROLOG—Automata Design Associates
"Programming in Logic, Part 2." 4:1 (Jan 1986):145-155.

VOLKSTORF, J. EDWARD, JR.
"BASIC Table Look-ups." Tech Notebook. 1:3 (Nov/Dec 1983):171.
"Blinking Cursor, The." Tech Notebook. 3:4 (Apr 1985):44.
"FIELDing with BASIC." Tech Notebook. 3:6 (Jun 1985):42.
"Truth about BASIC, The." 1:4 (Jan 1984):188-189.

"VROOM! PERFORMANCE BENCHMARKS FOR THE PC/AT"
Glinert-Cole, Susan. 2:6 (Dec 1984):108-110.
Performance benchmarks for the IBM PC/XT and PC/AT have been collected and are provided here. Benchmarks selected for this comparison include I/O, loading a word processor, compiling and linking a program plus numerous others. Results indicate that the PC/AT is two to three times faster than the PC/XT at most tasks. Three tables detail benchmark results and disk performance. *Letter References—3:12 (Dec 1985):18-20.*

VRTX/86—Hunter & Ready, Inc.
"Portable Approach, The." 4:5 (May 1986):75-89.

VSI-THE WINDOW MACHINE—Amber Systems, Inc.
"Drop-in Modules for C, Part 2." 3:7 (Jul 1985):135-146.

V20—Nippon Electric Corp.
"8088 vs V20." 4:4 (Apr 1986):73-79.

V30—Nippon Electric Corp.
"8088 vs V20." 4:4 (Apr 1986):73-79.

VX/PC—Vectrix Corp.
"Power Graphics." 3:7 (Jul 1985):56-77.

W

WAGNER, JORDAN LEE
"Programming in 1-2-3." 3:11 (Nov 1985):149-161.

WALKENBACH, JOHN
"Keyboard Shortcuts." 3:10 (Oct 1985):131-144.
"Printer Control." Tech Notebook. 3:8 (Aug 1985):41.

WATCOM APL—WATCOM Products, Inc.
"Language Learning Tools." 3:2 (Feb 1985):126-139.

WATCOM BASIC—WATCOM Products, Inc.
"Language Learning Tools." 3:2 (Feb 1985):126-139.
"Six New Shapes of BASIC." 4:6 (Jun 1986):52-75.

WATCOM COBOL—WATCOM Products, Inc.
"Language Learning Tools." 3:2 (Feb 1985):126-139.

WATCOM EDITOR—WATCOM Products, Inc.
"Language Learning Tools." 3:2 (Feb 1985):126-139.

WATCOM FORTRAN—WATCOM Products, Inc.
"Language Learning Tools." 3:2 (Feb 1985):126-139.

WATCOM PASCAL—WATCOM Products, Inc.
"Language Learning Tools." 3:2 (Feb 1985):126-139.

"WATSON SYSTEM, THE"
Duntemann, Jeff. Product Of The Month. 3:8 (Aug 1985):29.
The Watson Voice/Data Management System from Natural Microsystems Corp. runs on a PC/XT or PC/AT with 20MB or more of hard-disk space. The system includes a full-size PC circuit board, drivers, and PC-Talk for the modem, which is Hayes-compatible. Developers can choose between two environments, either VARI (value added reseller's interface) or VIS (voice information system).

WATSON VOICE/DATA MANAGEMENT SYSTEM, THE—Natural Microsystems Corp.
"Watson System, The." Product Of The Month. 3:8 (Aug 1985):29.

"WE INTERRUPT THIS PROGRAM"
Forgeron, Ted. Tech Notebook. 3:4 (Apr 1985):42.
An assembly language program allows the user to replace the default control-break interrupt handler with a customized routine. With these routines, the user can incorporate the capability of detecting control-break interrupts into applications programs.

WEBB, GARY and GUY QUEDENS
"Switching Modes." Programming Practices. 3:8 (Aug 1985):163-173.

"WELL-FORMATTED PASCAL, THE"
Armbrust, Steven and Ted Forgeron. 2:4 (Oct 1984): 22-33.
Two Pascal source code formatters, Tidy and Pascal Utilities, are reviewed. Pascal formatters convert unformatted source code to more readable form by enforcing standard rules of indentation and capitalization, aligning comments, and increasing white space where needed. Tidy is recommended because of its greater speed and reliability. A listing of a Pascal program before and after using both products is provided.

"WHAT DO BASIC ERROR MESSAGES REALLY MEAN?"
Ford, Nelson. Tech Notebook. 1:7 (Apr 1984):174.
BASIC error messages often say one thing but mean another. Situations that can cause BAD FILE NUMBER, TOO MANY FILES, LINE BUFFER OVERFLOW, or INPUT PAST END are described in a short quiz.

"WHAT HATH Z-D WROUGHT?"
Fastie, Will. Directions. 1:1 (Jul/Aug 1983):5,10,14,180.
The editor recounts how he was recruited by Ziff-Davis Publishing Co. to start *PC Tech Journal* and explains why the magazine is needed. The IBM PC is a complicated machine that can support many third-party products, which *PC Tech Journal* will review. It also will examine complex technical issues and provide information for both software developers and users. The magazine will focus on five major areas: communications, distributed processing, office automation, networking, and the process of connecting small computers to larger systems.

"WHAT IBM DID RIGHT/WRONG"
Fastie, Will. 1:1 (Jul/Aug 1983):50-56, 169-172.
A review of the IBM PC evaluates all of its components: the keyboard, Epson printer, color and monochrome displays, system board, peripherals, firmware, and software. Reliability and economy are considered important in IBM's design. The conclusion is that despite its failings, the PC is a system of flexibility and power. *Letter References—1:2 (Sep/Oct 1983):27. 1:3 (Nov/Dec 1983):26.*

WHEELPRINTER PRINTER—IBM
"Uptown Printers." 3:4 (Apr 1985):49-55.

"WHERE AM I?"
Fastie, Will. Tech Notebook. 1:2 (Sep/Oct 1983):197.
The DOS 2.0 PROMPT command allows the user to customize the system prompt and use it as a query for the current directory. Figures show PROMPT metacommands as well as several examples of PROMPT commands and the accompanying results. *Letter References—1:4 (Jan 1984):16; 1:5 (Feb 1984):22.*

"WHITESMITH'S C COMPILER"
Franz, Marty. Product Watch. 4:6 (Jun 1986):200-205.
The powerful Whitesmith's C compiler from Whitesmith's Ltd. is crippled by a nonstandard syntax. It has flexible configuration files, complete documentation, and many low-level functions, including memory allocation functions. Some low-level functions have nonstandard names, while others perform different actions than their standard counterparts. Whitesmith's has ported its runtime environment to 30 different systems. Tables list compiler specifications, features, notes on the documentation, and benchmark test results.

WHITESMITH'S C COMPILER—Whitesmith's Ltd.
"C and the PC, Part 2." 1:4 (Jan 1984):91-140.
"Whitesmith's C Compiler." Product Watch. 4:6 (Jun 1986):200-205.

"WHITESMITH'S LTD. FIGHTING THE PIRATES OF SOFTWARE"
Oppenheimer, Max Stul. Legal Brief. 1:2 (Sep/Oct 1983):205-209.
In an effort to stop the pirating of software, Whitesmith's Ltd. offers a license/copyright agreement with its products. An authorization seal is affixed to the particular computer where the licensed software is to be used. The seal substitutes for a written agreement and constitutes a contract between the user and Whitesmith's, Ltd. The terms of the agreement limit use of the specified software to the computer bearing the authorization seal.

WILSON, JEFFERY W.
"KSH-1 Scientific Calculator." Product Watch. 4:7 (Jul 1986):172-176.

"WINDOWDOS"
Beale, Dan. Product Watch. 4:3 (Mar 1986):185-186.
WindowDOS from Software of the Future, Inc. is a utility intended to help programmers navigate their way through the subdirectories of a packed hard disk. It is a small, fast, and effective memory-resident program. Standard DOS as well as some more specialized functions are provided to allow the user to flip through directories, reorganizing, copying, or deleting along the way.

WINDOWS—Microsoft Corp.
"Concurrent Environments." 3:12 (Dec 1985):52-65.

WINDOWS FOR C—Creative Solutions
"Drop-in Modules for C, Part 2." 3:7 (Jul 1985):135-146.

WIZARD C COMPILER—Wizard Systems Software, Inc.
"State of C, The." 4:1 (Jan 1986):82-108.

WONG, WILLIAM G.
"PC Speaks LISP, The." 1:7 (Apr 1984):112-148.

WORAM, JOHN W.
"Diskette Copy Services." 1:6 (Mar 1984):154-163.

"WORD PROCESSOR FILE CONVERSION"
Glass, Jim. 1:2 (Sep/Oct 1983):168-193.
A BASIC program converts text files between WordStar, Volkswriter, EasyWriter, and EDLIN. Instructions are provided to support other word processors. Tables and figures show word processor-dependent control codes and output of the conversion program. The program listing is provided. *Letter References—1:4 (Jan 1984):16.*

WOTEKI, TOM, ALAN FRIEDEN, DOV LEVY, THOR BESTUL, and ROBERT STINE
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"Third Drive, The." 3:6 (Jun 1985):47-55.

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"CADD Solution, A." 4:3 (Mar 1986):86-108.
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"Equation Solving by Formula/One." 4:6 (Jun 1986): 110-125.
"Interactive CAD." 4:9 (Sep 1986):102-129.
"Mechanical CAD." 4:6 (Jun 1986):80-95.
"Three-dimensional Modeling." 4:2 (Feb 1986): 88-103.
"TK!Solver Equates." 3:9 (Sep 1985):137-159.

WS-2—Maynard Electronics
"Ten By Ten." 2:5 (Nov 1984):52-63.

WYNN, PARDNER
"Life Is Simple with APL." 2:3 (Sep 1984):129-147.
"Pocket APL." 3:7 (Jul 1985):90-98.

X

X.PC PROTOCOL—Tymnet
"Asynchronous X.25." Product of the Month. 3:11 (Nov 1985):39.

X-NET—XComp, Inc.
"New Twist on Networking, A." 1:8 (May 1984):168-185.

"XENIX FOR THE XT"
Hansen, Augie. 3:6 (Jun 1985):129-140.
The Microsoft-developed XENIX 3.0, release 1.2, distributed by The Santa Cruz Operation (SCO), is a port of AT&T System III UNIX to the Intel 8086/88 microprocessor. SCO XENIX is UNIX System III bolstered by some of the most popular Berkeley UNIX programs (vi, more, csh) and Microsoft's visual shell. The system is sold in three major pieces: the operating system, the development system, and the text processing system. XENIX is ideal for single-user, multitasking operation. A photo shows Microsoft's visual shell. Tables provides DOS/XENIX interface commands and a performance summary. Figures show sample XENIX operations.

"XENIX LIVES"
Hansen, Augie. 2:6 (Dec 1984):114-115.
This article compares XENIX with UNIX System III. XENIX is a faithful implementation of UNIX System III, with the exception that some commands and capabilities associated with UNIX equipped to run on larger host machines have been left out. The minimum hardware configuration for XENIX is a PC/AT with .5MB of primary storage, a 1.2MB diskette drive, a 20MB hard disk, a serial/parallel adapter, and one or more display systems. Tables show available commands for user access and commands for the program development environment.

XENIX—The Santa Cruz Operation
"Reflections of UNIX." 3:5 (May 1985):54-73.
"XENIX for the XT." 3:6 (Jun 1985):129-140.

"XTREE"
Brecheen, Cole and Charles Bradford. Product Watch. 4:7 (Jul 1986):167-168.
DOS commands do not handle subdirectories and large numbers of files conveniently. XTREE from Executive Systems, Inc. is one of the best utilities designed to correct this problem. XTREE windows can display directory structure, the names, sizes, and attributes of files, and menus of DOS commands. Complete access to DOS commands, powerful operations on groups of files, configuration options, and compatibility with various versions of DOS make XTREE a powerful and effective product.

XYWRITE—XYQuest
"Program Editors." 1:2 (Sep/Oct 1983):110-123.

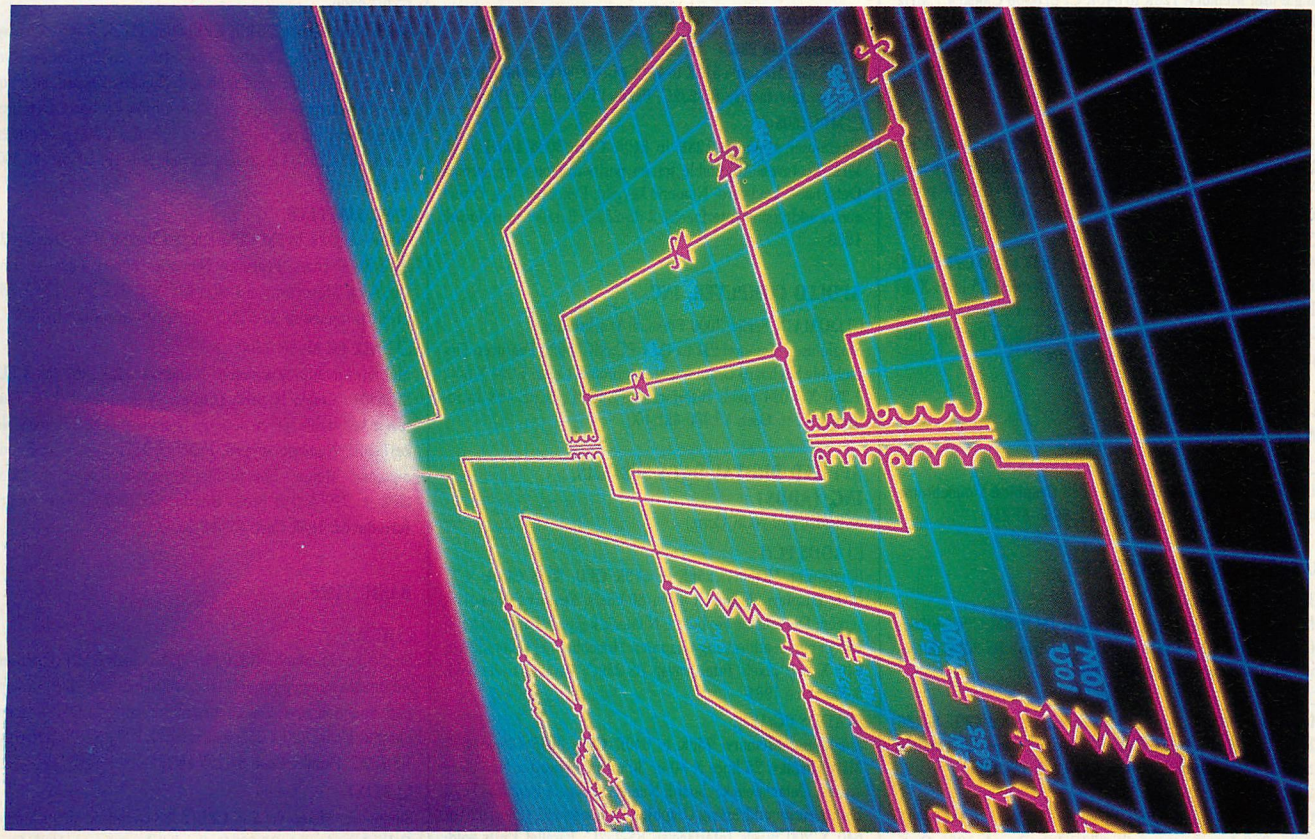
Z

ZARODNANSKY, DAVID and JACK WRIGHT
"Third Drive, The." 3:6 (Jun 1985):47-55.

"ZIM RELEASE 2.5"
Foard, Richard M. Product Watch. 4:6 (Jun 1986):195.
Release 2.5 of the ZIM data management system from Zanthe Information, Inc. includes significant extensions to ZIM's forms management, database organization, set manipulation capabilities, and a new user's manual. As many as 30 separately developed forms now can be composed into a single display, and applications can straddle multiple DOS directories or even multiple disk drives.

ZIM—Zanthe Information, Inc.
"Entity-Relationships, A Data Manager Using." 3:10 (Oct 1985):96-126.
"ZIM Release 2.5." Product Watch. 4:6 (Jun 1986):195.

HARDWARE



COMPUTERS

DESKTOP SYSTEMS

ACTION COMPUTER ENTERPRISE, INC.

☐ **Discovery X3**
Multiuser-multiprogramming **Memory:** 16M **CPU:** Z80A; 8086; 8087; 8088; 80186 **Clock:** 10 MHz **Users:** 16 **Interface(s):** RS-232C; RS-449/422; Parallel **Introduced:** 1985

ADTEK

☐ **Series 286AT**
Multiuser-multiprogramming **Memory:** 640K to 1M **CPU:** 80286 **Clock:** 6; 8 MHz **Users:** 4 **Interface(s):** 2 RS-232C; 1 Parallel **Units sold:** 1,000 since 1985

ADVANCED COMPUTER PRODUCTS, INC.

☐ **Advanced XT/PC**
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 40 or 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Cost:** $699-$2,548

ADVANCED LOGIC RESEARCH, INC.

☐ **Advanced PC, XT Turbo Systems**
Single-user **Memory:** 640K **CPU:** 80286-8 **Clock:** 8 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Color; 720 X 350 pixels **Interface(s):** RS-232C; Parallel **Cost:** $995-$6,995

☐ **ALR System 286**
Single-user **Memory:** 512K to 2M **CPU:** 80286-8 **Clock:** 8 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys **Interface(s):** 1 Centronics **Cost:** $1,995-$7,695

☐ **AT Tower Systems**
Single-user **Memory:** 1M to 2M **CPU:** 80286 **Clock:** 8 MHz **Features:** Detachable keyboard; Function keys; Direct cursor addressing **Graphics:** Color; 720 X 350 pixels **Interface(s):** RS-232C; Parallel **Cost:** $1,795-$9,945

☐ **PC2/286**
Single-user **Memory:** 512K to 1M **CPU:** 80286-8 **Graphics:** Monochrome **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,495-$1,545

AFTON COMPUTER, INC.

☐ **Quantum AT**
Single-user **Memory:** 512K to 1M **CPU:** 80286 **Interface(s):** RS-232C; Parallel **Introduced:** 1986

☐ **Quantum XT**
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

☐ **Quantum XT TURBO**
Single-user **Memory:** 256K to 1M **CPU:** 8088-2 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

ALPHA MICROSYSTEMS

☐ **AM-506**
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.7 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Function keys **Graphics:** Monochrome; Color; 640 X 400 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 500 since 1984 **Cost:** $2,795-$3,310

☐ **AM-510**
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.7 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Function keys **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** 1 RS-232C; 1 Parallel **Units sold:** 500 since 1984

☐ **AM-680 ELS**
Multiuser-multiprogramming **Memory:** 128K to 1M **CPU:** 8088; MC68000 **Clock:** 4.77; 8 MHz **Users:** 3 **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Function keys **Graphics:** Color; 640 X 200 pixels **Interface(s):** 1 RS-232C; 1 Parallel **Units sold:** 500 since 1984 **Cost:** $6,870-$7,340

ALPHANUMERIC INTERNATIONAL, INC.

☐ **ANI PC2**
Single-user **Memory:** 640K **CPU:** 8088 **Graphics:** Monochrome **Interface(s):** RS-232C; Parallel **Cost:** $995-$1,850

ALTOS COMPUTER SYSTEMS

☐ **Altos 1086/2086**
Multiuser-multiprogramming **Memory:** 1M to 8M **CPU:** 80286; 8086 **Clock:** 8 MHz **Users:** 10-20 **Interface(s):** RS-232C **Introduced:** 1986 **Cost:** $14,990-$27,990

☐ **Altos 2086**
Multiuser-multiprogramming **Memory:** 2M to 8M **CPU:** 80286 **Clock:** 10 MHz **Users:** 20 **Graphics:** Monochrome **Interface(s):** RS-232C **Introduced:** 1985 **Cost:** $19,990-$27,490

☐ **Altos 686**
Multiuser-multiprogramming **Memory:** 512K to 2.5M **CPU:** 80286; Z80 **Interface(s):** 6 RS-232C **Introduced:** 1986 **Cost:** $4,995-$7,695

☐ **Altos 886**
Multiuser-multiprogramming **Memory:** 1M to 2M **CPU:** 80286; Z80B; 80188 **Clock:** 7.5 MHz **Users:** 8 **Interface(s):** 9 RS-232C; RS-422 **Introduced:** 1985 **Cost:** $6,695-$11,195

AMERICAN COMPUTER AND PERIPHERAL, INC.

☐ **American AT**
Single-user **Memory:** 512K to 4M **CPU:** 80286 **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 72 X 350; (color) 640 X 200 pixels

☐ **American XT**
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 72 X 350; (color) 640 X 200 pixels

☐ **American 286**
Single-user **Memory:** 512K **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

AMERICAN MICRO TECHNOLOGY

☐ **AMT ATjr**
Single-user **Memory:** 640K **CPU:** V-20 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985

☐ **AMT XT-Plus**
Single-user **Memory:** 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985

☐ **AMT 286**
Single-user **Memory:** 640K **CPU:** 8088 **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985

☐ **AMT 286-e**
Single-user **Memory:** 640K to 1M **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985

AMERICAN MITAC CORP.

☐ **Computitan 286**
Single-user **Memory:** 512K to 4M **CPU:** 80286 **Graphics:** Monochrome **Interface(s):** RS-232C; Parallel **Introduced:** 1986

☐ **MPC160S**
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Interface(s):** 2 RS-232C; Parallel **Introduced:** 1986

APOLLO COMPUTER, INC.

☐ **DOMAIN Series 3000 Personal Workstation**
Single-user **Memory:** 2M to 4M **CPU:** MC68020 **Features:** Detachable keyboard **Graphics:** Monochrome; Color; 1,024 X 800; 1,280 X 1,024 pixels **Interface(s):** RS-232C; IEEE-488 **Introduced:** 1986 **Cost:** $9,900-$21,400

APPLIED DIGITAL DATA SYSTEMS, INC. (ADDS)
(subsidiary of NCR Corp.)

☐ **ADDS PC/I**
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 40 or 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 3,000 since 1984

☐ **ADDS PC/II**
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 40 or 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 3,000 since 1984

☐ **Mentor 1500**
Multiuser-multiprogramming **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4 MHz **Users:** 3 **Graphics:** Monochrome; Color **Introduced:** 1985

APRICOT, INC.

☐ **Apricot F10**
Single-user **Memory:** 512K to 1M **CPU:** 8086 **Clock:** 4.67 MHz **Display:** 24 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Infrared mouse **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985

☐ **Apricot PC**
Single-user **Memory:** 256K to 1M **CPU:** 8086 **Clock:** 5 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Function keys **Graphics:** Monochrome; Color; 800 X 400 pixels **Interface(s):** 1 RS-232C; 1 Centronics **Units sold:** 60,000 since 1983

☐ **Apricot XEN**
Multiuser-multiprogramming **Memory:** 512K to 1M **CPU:** 80286 **Clock:** 7.5 MHz **Users:** 16 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Centronics **Introduced:** 1986

☐ **Apricot xi-10; xi-20**
Single-user **Memory:** 256K to 1M **CPU:** 8086 **Clock:** 5 MHz **Display:** 24 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; LCD microscreen on keyboard **Graphics:** Monochrome; Color; 640 X 200 or 256; 800 X 400 pixels **Interface(s):** RS-232C; Centronics **Units sold:** 50,000 since 1984 **Cost:** $2,495-$3,195

AT&T INFORMATION SYSTEMS

☐ **PC 6300**
Single-user **Memory:** 640K **CPU:** 8086 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Low-profile keyboard **Graphics:** Monochrome; Color; 640 X 200 or 400; 320 X 200 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1984 **Cost:** $2,580-$3,420

☐ **PC 6300 PLUS**
Memory: 512K to 7M **CPU:** 80286 **Clock:** 6 MHz **Display:** 25 lines X 80 chars. **Features:** Numeric keypad; Function keys **Graphics:** Monochrome; Color; 640 X 400 or 200; 320 X 200 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985

☐ **UNIX PC Model 7300**
Multiuser-multiprogramming **Memory:** 512K to 2M **CPU:** MC68010 **Clock:** 10 MHz **Display:** 29 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Mouse; Low-profile keyboard **Graphics:** Monochrome; 720 X 348 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985 **Cost:** $5,095-$6,590

BASIC TIME

☐ **BT/AT**
Single-user **Memory:** 640K **CPU:** 80286 **Clock:** 6 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 350; (color) 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Cost:** $4,495-$6,785

☐ **BT/XT**
Single-user **Memory:** 256K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $1,195-$1,995

BECTERM, INC.

☐ **AZ-1400 DT Series**
Multiuser-multiprogramming **Memory:** 64K to 2M **CPU:** 6502; MC68000 **Interface(s):** RS-232C; Parallel **Introduced:** 1986

☐ **AZ-1400 Series**
Multiuser-multiprogramming **Memory:** 64K to 2M **CPU:** 6502; MC68000 **Interface(s):** RS-232C; Parallel **Introduced:** 1986

☐ **AZ-400 Series**
Multiuser-multiprogramming **Memory:** 64K to 2M **CPU:** 6502; MC68000 **Interface(s):** RS-232C; Parallel **Introduced:** 1986

BONDWELL, INC.

☐ **Model 32/34/36 XT**
Single-user **Memory:** 64K to 256K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** Centronics **Introduced:** 1985 **Cost:** $1,000-$2,500

ASSEMBLY LANGUAGE REFERENCE CARD

OPCODE		DESCRIPTION	JUMP CONDITION
JC	shortlbl	Jump if carry	CF = 1
JCXZ	shortlbl	Jump CX=0	CX = 0
JE/JZ	shortlbl	Jump =/0	ZF = 1
JG/JNLE	shortlbl	Jump >/Not ≦	SF=OF and ZF=0
JGE/JNL	shortlbl	Jump ≧/Not <	SF = OF
JL/JNGE	shortlbl	Jump </Not ≧	SF <> OF
JLE/JNG	shortlbl	Jump ≦/Not >	(SF <> OF) or (ZF = 1)
JMP	target	Unconditional jump	
JNC	shortlbl	Jump not carry	CF = 0
JNE/JNZ	shortlbl	Jump not=/Not 0	ZF = 0
JNO	shortlbl	Jump not overflow	OF = 0
JNP/JPO	shortlbl	Jump not parity/Parity odd	PF = 0
JNS	shortlbl	Jump not sign	SF = 0
JO	shortlbl	Jump if overflow	OF = 1
JP/JPE	shortlbl	Jump if parity/Parity even	PF = 1
JS	shortlbl	Jump if sign	SF = 1

OPCODE		DESCRIPTION	FLAGS O D I T S Z A P C
LAHF		Load AH from flags	. . . . .
LDS	dest, source	Load pointer using DS	. . . . .
LOCK		Lock bus	. . . . .
LODS/B/W	[source-string]	Load string	. . . . .
LOOP	shortlbl	Loop	. . . . .
LOOPE/Z	shortlbl	Loop equal/zero	. . . . .
LOOPNE/NZ	shortlbl	Loop not equal/Not zero	. . . . .
LEA	dest,source	Load effective address	. . . . .
LES	dest,source	Load pointer using ES	. . . . .
MOV	dest,source	Move	. . . . .
MOVS/B/W	[dest,source]	Move string	. . . . .
MUL	source	Multiplication unsigned	X . . . U U U U X
NEG	dest	Negate	X . . . X X X X X
NOP		No operation	. . . . .
NOT	dest	Logical NOT	. . . . .
OR	dest,source	Logical inclusive OR	0 . . . X X U X 0
OUT	port,accum	Output byte or word	. . . . .
POP	dest	Pop word off stack	. . . . .
POPF		Pop flags off stack	R R R R R R R R R
PUSH	source	Push word onto stack	. . . . .
PUSHF		Push flags onto stack	. . . . .
RCL	dest,count	Rotate left through carry	X X
RCR	dest,count	Rotate right through carry	X X
REP		Repeat string operation	. . . . .
REPE/Z		Repeat string operation while =/0	. . . . .
REPNE/NZ		Repeat string operation while not =/not 0	. . . . .
RET	optional pop	Return from procedure	. . . . .
ROL	dest,count	Rotate left	X X
ROR	dest,count	Rotate right	X X
SAHF		Store AH into flags	. . . . R R R R R
SAL/SHL	dest, count	Shift left arithmetic/logical	X . . . X X U X X
SAR	dest,count	Shift arithmetic right	X . . . X X U X X
SBB	dest,source	Subtract with borrow	X . . . X X X X X
SCAS/B/W	[dest-string]	Scan string	X . . . X X X X X
SHR	dest,count	Shift logical right	X X

OPCODE		DESCRIPTION	FLAGS O D I T S Z A P C
STC		Set carry flag	 1
STD		Set direction flag	. 1 . . . . .
STI		Set interrupt enable flag	. . 1 . . . . .
STOS/B/W	[dest-string]	Store byte/word string	. . . . .
SUB	dest,source	Subtract	X . . . X X X X X
TEST	dest,source	Test/Nondestructive logical AND	0 . . . X X U X 0
WAIT		Wait for 8087 not busy	. . . . .
XCHG	dest,source	Exchange	. . . . .
XLAT	source table	Translate	. . . . .
XOR	dest,source	Logical exclusive OR	0 . . . X X U X 0

II. NEW 80286 INSTRUCTIONS (Real Mode)

OPCODE		OPERATION	FLAGS O D I T S Z A P C
BOUND	reg, mem	Detect value out of range	. . . . .
ENTER	imm16, imm8	Enter procedure	. . . . .
IMUL	reg, imm	Integer multiply	X . . . U U U U X
INS/B/W	mem, DX	Input string from DX	. . . . .
LEAVE		Leave procedure	. . . . .
OUTS/B/W	DX, mem	Output string to port	. . . . .
POPA		Pop all registers	. . . . .
PUSH	imm	Push immediate data	. . . . .
PUSHA		Push all registers	. . . . .
RCL/RCR/ROL/ROR	r/m, imm	Rotate by immediate	X X
SAL/SAR/SHL/SHR	r/m, imm	Shift by immediate	X . . . X X U X X

III. DATA ADDRESSING MODES

MODE	EXAMPLE	RESULT
Register	MOV AX, BX	(BX) → AX
Immediate	MOV AX, 5	5 → AX
Direct	MOV AX, ADDR	(ADDR) → AX
Indirect	MOV AX, [BX]	ADDR=(BX) (ADDR) → AX
Indirect + Displacement	MOV AX, [BX+5]	ADDR=(BX) (ADDR+5) → AX
Base + Index	MOV AX, [BX + SI]	ADDR=(BX)+(SI) (ADDR) → AX
Base + Index + Displacement	MOV AX, [BX+S/I+5]	ADDR=(BX)+(SI) (ADDR+5) → AX

Notes:

a. (n) = contents of location n.

b. Indirect registers—both base registers: BX BP; both index registers: DI SI.

c. All modes usable as source or destination except immediate (source only).

d. DS is assumed as the segment register for all data except: (1) where BP is the base register, then SS is used; (2) for string operations, ES is the destination segment; (3) where a segment override is stated.

IV. STACK OPERATIONS

1. Segment pointed to by SS.
2. Last-in, first-out type.
3. The top of the stack is the lowest address; the stack grows downward in memory.
4. SP register always used:
   SP − 2 → SP ; PUSH dest
   dest → (SP)

   (SP) → dest ; POP dest
   SP + 2 → SP

V. SPECIFIC INSTRUCTION CLASSES

String manipulation MOVS CMPS SCAS LODS STOS

1. B or W is appended for byte/word.
2. Operands are always implied:
   String source in DS : SI
   String dest in ES : DI
3. CX is the counter for REP MOVSB.
   REP MOVSB repeats CX times.
4. SI and DI are incremented unless DF = 1, then SI and DI are decremented.

Loop Instructions

1. The LOOP instructions use CX as counter.
2. Each time through, CX = CX − 1. If CX Not 0, then jump to shortlbl.

VI. SELECTED BIOS INTERRUPTS (Hex)

0	Divide by zero	14	Serial I/O
1	Single step	15	Extended memory (PC/AT only)
2	Nonmaskable interrupt (NMI)	16	Keyboard input
3	Breakpoint	17	Printer output
5	Print screen	19	Boot strap loader
10	Video display	1A	Time of day
11	Equipment list	1D	Video initialization
12	Memory size	1E	Diskette parameters
13	Disk I/O	1F	Video graphics characters

VII. SELECTED DOS INTERRUPTS (Hex)

20	Program terminate	25	Absolute disk read
21	Function call (see section XII)	26	Absolute write
22	Terminate address	27	Terminate, stay resident
23	Break address	2F	Print spool control
24	Critical error handler		

VIII. ASSEMBLY LANGUAGE PSEUDO-OPERATIONS

LISTING PSEUDO-OPS	INSTRUCTION SET PSEUDO-OPS
.CREF/.XCREF	.8086/.186/.286c/.286p
.LALL/.SALL/.XALL	.8087/.287
.LFCOND/.SFCOND/.TFCOND	
.LIST/.XLIST	
%OUT text	
PAGE length, width / +	
SUBTTL text	
TITLE text	

DATA PSEUDO-OPS

ASSUME	segreg : segname
GROUP	segname [, segname . . .]
SEGMENT	align-type combine-type class
INCLUDE	filename
NAME	name
COMMENT	delimiter comment delimiter
.RADIX	2/8/10/16
ORG	expression
EVEN	
name EQU/=	expression
DB	byte values
DW	word values

DATA PSEUDO-OPS

DD	doubleword values
DQ	quadword values
DT	ten-byte values
RECORD	fieldname ; width
STRUC	
LABEL	define-type
EXTRN	name : define-type
PUBLIC	name
PROC	[NEAR/FAR]
END/ENDP/ENDS	

ALIGN TYPES	COMBINE TYPES	DEFINE TYPES
BYTE	PUBLIC	BYTE
WORD	COMMON	WORD
PARA	STACK	DWORD
PAGE	MEMORY	QWORD
	AT address	TBYTE
		NEAR
		FAR
		ABS (used with EXTRN only)

IX. PROGRAM SEGMENT PREFIX (PSP)

OFFSET (Hex)	LENGTH (bytes) (Decimal)	CONTENTS
0	2	INT 20H instruction
2	2	Memory size (paragraphs)
5	5	Long call to DOS; #bytes in segment at offset 6
A	4	Terminate vector
E	4	Ctrl-break vector
12	4	Critical error vector
2C	2	Environment segment address
50	3	INT 21 and far return
5C	16	FCB 1
6C	16	FCB 2
80	1	Length of parameter string
81	127	Command parameter string

X. DOS FUNCTION CODES (Hex)

Place function code in AH, invoke INT 21H.

00	Program terminate	12	Search next entry
01	Keyboard input	13	Delete file
02	Display output	14	Sequential read
03	Auxiliary input	15	Sequential write
04	Auxiliary output	16	Create file
05	Printer output	17	Rename file
06	Direct console I/O	19	Current disk
07	Direct console input, no echo	1A	Set DTA
08	Console input, no echo	1B	FAT information, current disk
09	Print string	1C	FAT information, any disk
0A	Buffered string input	21	Random read
0B	Check standard input status	22	Random write
0C	Clear keyboard buffer	23	File size
0D	Disk reset	24	Set relative record field
0E	Select disk	25	Set interrupt vector
0F	Open file	26	Create new program segment
10	Close file	27	Random block read
11	Search first entry	28	Random block write
29	Parse file name	45	Duplicate file handle
2A	Get date	46	Force duplicate handle
2B	Set date	47	Get current directory
2C	Get time	48	Allocate memory
2D	Set time	49	Free allocated memory
2E	Set/reset verify switch	4A	Modify allocated blocks
2F	Get DTA	4B	Load/exec program (EXEC)
30	Get DOS version number	4C	Terminate process
31	Terminate, stay resident	4D	Get subprocess return code
33	Ctrl-break check	4E	Find first matching file
35	Get interrupt vector	4F	Find next matching file
36	Get free disk space	54	Get verify setting
38	Get/set country information	56	Rename file
39	Create subdirectory	57	Get/set file date/time
3A	Remove subdirectory	59	Get extended error [a]
3B	Change current dir	5A	Create unique file [a]
3A	Create file	5B	Create new file [a]
3D	Open file	5C	Lock/unlock file access [a]
3E	Close file handle	5E00	Machine type [b]
3F	Read from file/device	5E02	Set up printer [b]
40	Write to file/device	5E03	Get printer set up [b]
41	Delete file	5F02	Get redirection list [b]
42	Move file pointer	5F03	Redirect device [b]
43	Get/set file attributes	5F04	Cancel redirection [b]
44	I/O control for devices	62	Get PSP address [a]

[a] *Introduced in DOS version 3.0.*
[b] *Introduced in DOS version 3.1.*

XI. I/O CONTROL SUBFUNCTIONS (hex)

Load 44H into AH, function code into AL, load CX if function ODH, invoke INT 21H.

AL = 00 Get device information
AL = 01 Set device information
AL = 02 Read from character device
AL = 03 Write to character device
AL = 04 Read from block device
AL = 05 Write to block device
AL = 06 Get input status
AL = 07 Get output status
AL = 08 Is device removable? [a]
AL = 09 Is device local or remote? [b]
AL = 0A Is handle local or remote? [b]
AL = 0B Set sharing retry count [a]
AL = 0D Generic IOCTL request: [c]
CX = 0840 Set device parameters
CX = 0841 Write track
CX = 0842 Format track
CX = 0860 Get device parameters
CX = 0861 Read track
CX = 0862 Verify track layout
AL = 0E Get logical drive id [c]
AL = 0F Set logical drive id [c]

[a] *Introduced in DOS version 3.0.*
[b] *Introduced in DOS version 3.1.*
[c] *Introduced in DOS version 3.2.*

Original concept for this reference card was developed by Alan T. Lefor; additional material provided by Ted Mirecki. Copyright © 1987 Ziff-Davis Publishing Company, a division of Ziff Communications Company.

TECH JOURNAL.

ASSEMBLY LANGUAGE REFERENCE CARD

I. 8088 INSTRUCTION SET

FLAG	DESCRIPTION	FLAGS BIT
OF	Overflow	11
DF	Direction	10
IF	Interrupt enable	9
TF	Trap	8
SF	Sign	7
ZF	Zero	6
AF	Auxiliary carry	4
PF	Parity	2
CF	Carry	0

Key to Flag Codes

1 Unconditionally set
0 Unconditionally cleared
X Altered to reflect operation result
U Undefined
R Replaced from memory (e.g., SAHF)
. Unaffected

OPCODE		DESCRIPTION	FLAGS O D I T S Z A P C
AAA		ASCII adjust addition	U . . . U U X U X
AAD		ASCII adjust division	U . . . X X U X U
AAM		ASCII adjust multiply	U . . . X X U X U
AAS		ASCII adjust subtract	U . . . U U X U X
ADC	dest,source	Add with carry	X . . . X X X X X
ADD	dest,source	Addition	X . . . X X X X X
AND	dest,source	Logical AND	0 . . . X X U X 0
CALL	target	Call a procedure	. . . . .
CBW		Convert byte to word	. . . . .
CLC		Clear carry flag	 0
CLD		Clear direction flag	. 0 . . . . .
CLI		Clear interrupt flag	. . 0 . . . . .
CMC		Complement carry flag	 X
CMP	dest,source	Compare destination to source	X . . . X X X X X
CMPS/B/W	dest,source	Compare string	X . . . X X X X X
CWD		Convert word to doubleword	. . . . .
DAA		Decimal adjust addition	U . . . X X X X X
DAS		Decimal adjust subtraction	U . . . X X X X X
DEC	dest	Decrement by 1	X . . . X X X X .
DIV	source	Division, unsigned	U . . . U U U U U
ESC	opcode,source	Escape	. . . . .
HLT		Halt	. . . . .
IDIV	source	Integer divide	U . . . U U U U U
IMUL	source	Integer multiply	X . . . U U U U X
IN	accum,port	Input byte or word	. . . . .
INC	dest	Increment by 1	X . . . X X X X .
INT	int-type	Interrupt	. . 0 0 . . . . .
INTO		Interrupt if overflow	. . 0 0 . . . . .
IRET		Interrupt return	R R R R R R R R R

JUMP INSTRUCTIONS

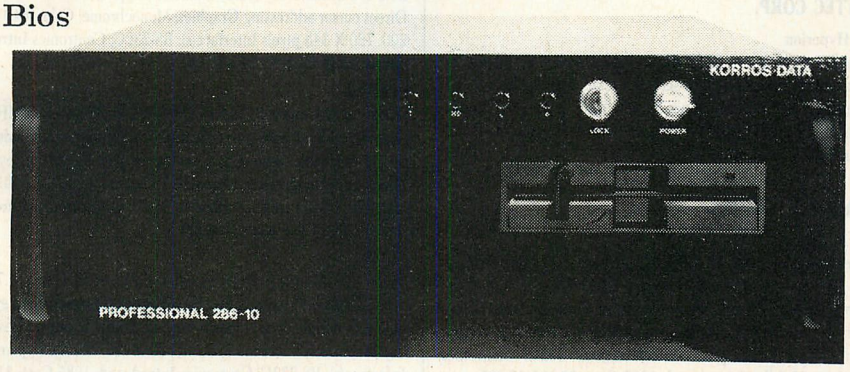
Note: No flags are affected by any of the jump instructions.

OPCODE		DESCRIPTION	JUMP CONDITON
JA/JNBE	shortlbl	Jump >/Not ≦	CF = 0 or ZF = 0
JAE/JNB	shortlbl	Jump ≧/Not <	CF = 0
JB/JNAE	shortlbl	Jump </Not ≧	CF = 1
JBE/JNA	shortlbl	Jump ≦/Not >	CF = 1 or ZF = 1

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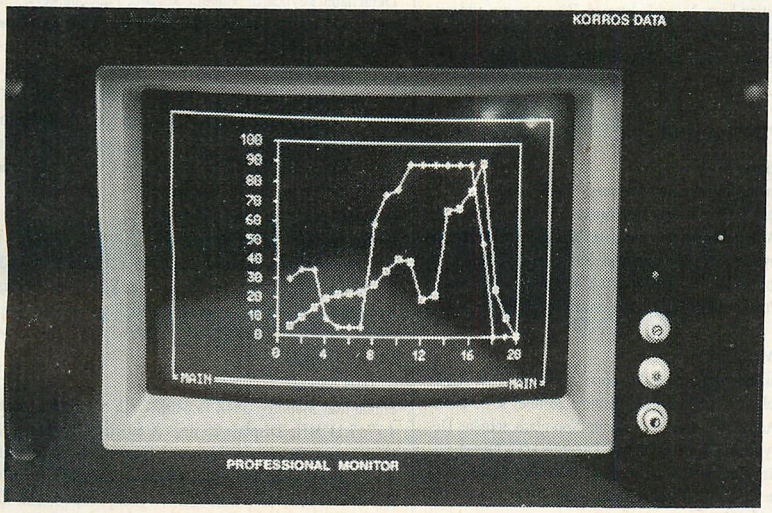
Intel 80286 Microprocessor 8/10 MHZ

- Math coprocessor (80287)
- Seven channel DMA
- 16 level interrupt
- System clock
- Three programmable timers
- 64 kB ROM
- One MB RAM on board
- CMOS RAM for system configeration
- Real time clock
- Battery backup for CMOSRAM
- Eight slots
- Two parallel printerports
- One serial port
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- Rugged hard disk drive 20 MB/30MB
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- EGA compatible high resolution monitor
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BURROUGHS CORP.

☐ B 25
Multiuser-multiprogramming **Memory:** 256K to 1M **CPU:** iAPX 186 **Clock:** 8 MHz **Users:** 5 **Display:** 29 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 348 pixels **Interface(s):** 2 RS-232C; Parallel; RS-422 **Introduced:** 1984 **Cost:** $2,655-$31,685

BYTEC CORP.

☐ Hyperion
Single-user **Memory:** 256K **CPU:** 8088 **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 640 X 250 pixels **Interface(s):** RS-232C; Parallel; Centronics

CANON U.S.A., INC.

☐ A-200
Memory: 256K to 512K **CPU:** 8086 **Clock:** 4.77 MHz **Display:** 25 lines X 80 or 40 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; (color) 320 X 200 pixels **Interface(s):** RS-232C; Centronics **Weight:** 25.6 lbs. **Introduced:** 1985 **Cost:** $2,195-$2,695

☐ A-200II Series
Single-user **Memory:** 256K to 640K **CPU:** 8086 **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Mouse **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,995-$3,595

☐ Athena
Single-user **Memory:** 256K to 512K **CPU:** 8086 **Display:** 25 lines X 40 or 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; (color) 320 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1984

CARINT, LTD.

☐ ECS-286
Single-user **Memory:** 256K to 720K **CPU:** 80286-1 **Clock:** 10; 8 MHz **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Mouse **Graphics:** Monochrome; Color; 720 X 384; (color) 320 X 200 pixels **Interface(s):** 2 RS-232C; Centronics

CHALLENGER COMPUTER, INC.

☐ XT-186; XT-88T; XAT-286; AT-286
Multiuser-multiprogramming **Memory:** 256K to 4M **CPU:** 8088-2; 80186; 80286 **Clock:** 8; 10 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Color **Interface(s):** RS-232C; Parallel **Units sold:** 1,000 since 1985

CHAMPION BUSINESS SYSTEMS

☐ CHAMPION PC
Single-user **Memory:** 1M **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Mouse **Graphics:** Monochrome; Color; 640 X 352; 320 or 640 X 200 pixels pixels **Interface(s):** 2 RS-232C; 2 Parallel

CHESAPEAKE DATA SYSTEMS CORP.

☐ AT-01
Single-user **Memory:** 512K to 2M **CPU:** 80286 **Clock:** 6 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; 640 X 200; 720 X 348 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985 **Cost:** $2,595-$2,970

☐ AT-20
Single-user **Memory:** 512K to 2M **CPU:** 80286 **Clock:** 6 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; 720 X 348 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985 **Cost:** $3,195-$3,920

☐ AT-30
Single-user **Memory:** 512K to 2M **CPU:** 80286 **Clock:** 6 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; 720 X 348 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985 **Cost:** $3,745-$4,120

☐ AT-40
Single-user **Memory:** 512KB to 2M **CPU:** 80286 **Clock:** 6 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; 720 X 348 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985 **Cost:** $3,945-$4,320

☐ TG-1
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Function keys; Numeric keypad; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; 720 X 348 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985 **Cost:** $1,145-$1,485

☐ TG-10
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Function keys; Numeric keypad; Adjustable screen position; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; 720 X 348 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985 **Cost:** $1,895-$2,240

☐ TG-2
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Function keys; Numeric keypad; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; 720 X 348 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985 **Cost:** $1,295-$1,640

☐ TG-20
Single-user **Memory:** 512K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Function keys; Numeric keypad; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; 720 X 348 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985 **Cost:** $1,995-$2,340

CLASSIC TECHNOLOGY, INC.

☐ AT Multiuser System
Multiuser-multiprogramming **Memory:** 256K to 16M **CPU:** 80286 **Clock:** 8 MHz **Users:** 16 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 720 X 348; 640 X 400 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 1,500 since 1985 **Cost:** $395-$2,495

☐ PC/XT Multiuser System
Multiuser-multiprogramming **Memory:** 256K to 16M **CPU:** 80286 **Clock:** 8 MHz **Users:** 16 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 348 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 1,500 since 1985 **Cost:** $395-$2,495

COMMODITY SYSTEMS, INC.

☐ QUICKPC
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,045-$1,195

COMPAQ COMPUTER CORP.

☐ COMPAQ DESKPRO Model 1
Single-user **Memory:** 128K to 640K **CPU:** 8086 **Clock:** 4.77; 7.14 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1984

☐ COMPAQ DESKPRO Model 2
Single-user **Memory:** 256K to 640K **CPU:** 8086 **Clock:** 4.77; 7.14 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1984

☐ COMPAQ DESKPRO Model 286 Model 1A
Single-user **Memory:** 128K to 640K **CPU:** 8086 **Clock:** 4.77; 7.14 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Direct cursor addressing; Function keys **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1986

☐ COMPAQ DESKPRO Model 3
Single-user **Memory:** 256K to 640K **CPU:** 8086 **Clock:** 4.77; 7.14 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1984

☐ COMPAQ DESKPRO Model 4
Single-user **Memory:** 640K **CPU:** 8086 **Clock:** 4.77; 7.14 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1984

☐ COMPAQ DESKPRO Model 5
Single-user **Memory:** 640K **CPU:** 8086 **Clock:** 4.77; 7.14 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Interface(s):** Parallel **Introduced:** 1985

☐ COMPAQ DESKPRO 286 Model 1
Multiuser-multiprogramming **Memory:** 256K to 8.2M **CPU:** 80286 **Clock:** 6; 8 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1985

☐ COMPAQ DESKPRO 286 Model 2
Multiuser-multiprogramming **Memory:** 256K to 8.2M **CPU:** 80286 **Clock:** 6; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1985 **Cost:** $5,999-$6,254

☐ COMPAQ DESKPRO 286 Model 2A
Multiuser-multiprogramming **Memory:** 256K to 8.3M **CPU:** 80286 **Clock:** 6; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1986

☐ COMPAQ DESKPRO 286 Model 3
Reviewed Aug 1986 p. 80.
Multiuser-multiprogramming **Memory:** 256K to 8.3M **CPU:** 80286 **Clock:** 6; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1985

☐ TeleCompaq
Single-user **Memory:** 384K to 640K **CPU:** 8086; Z80 **Clock:** 4; 4.77; 7.14 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $4,195-$6,395

COMPUTER CONSOLES, INC.

☐ CCI PC
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Non-glare screen; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 348; 640 X 400; 320 or 640 X 200 pixels **Interface(s):** 2 RS-232C; Parallel **Introduced:** 1984 **Cost:** $2,500-$5,800

COMPUTER DESIGNED SYSTEMS, INC.
Commercial Systems Division

☐ Adviser Micro Plus
Foreground-background; Multiuser-multiprogramming **Memory:** 64K to 1M **CPU:** 8080; 80286 **Clock:** 6; 8; 10 MHz **Users:** 6 **Display:** 24 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 280 pixels **Interface(s):** RS-232C **Units sold:** 169 since 1982 **Cost:** $1,995

COMPUTER EXPERT, INC.

☐ Ps PC/AT
Single-user **Memory:** 512 to 1M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

☐ Ps PC/XT
Single-user **Memory:** 256K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

☐ Ps Turbo XT
Single-user **Memory:** 256K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

COMPUTER SYSTEMS

☐ ASC/80286
Multiuser-multiprogramming **Memory:** 128K to 2M **CPU:** 80286 **Clock:** 10 MHz **Users:** 1-16 **Display:** 40 lines X 130 chars. **Features:** Detachable keyboard **Graphics:** Monochrome; Color; 1,024 X 1,024; 2,048 X 2,048 pixels **Interface(s):** RS-232C; IEEE-488 **Introduced:** 1984

☐ PC/8088 Personal Computer System
Multiuser-multiprogramming **Memory:** 32K to 512K **CPU:** 8088; Z80 (optional) **Clock:** 4.8 MHz **Users:** 1-8 **Display:** 25 lines X 40 or 80 chars. **Features:** Detachable keyboard **Graphics:** Color; Monochrome; 640 X 240 to 1,024 X 1,024 pixels **Interface(s):** IEEE-488; RS-232C **Introduced:** 1983

CONQUEST COMPUTER INDUSTRIES

☐ Conquest PC AT
Single-user **Memory:** 640K to 1M **CPU:** 80286 **Clock:** 6 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; 720 X 348 pixels

☐ Conquest PC Turbo
Single-user **Memory:** 640 to 1M **CPU:** 8088-2 **Clock:** 4.7; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard **Graphics:** Monochrome; 720 X 348 pixels **Interface(s):** RS-232C; Centronics **Cost:** $1,225

CONTEL COMPUTER SYSTEMS
(subsidiary of Continental Telecom, Inc.)

☐ Tiger AT/4
Multiuser-multiprogramming **Memory:** 512K to 3M **CPU:** 80286 **Users:** 4 **Display:** 25 lines X 80 chars. **Graphics:** Monochrome; Color; 720 X 348; (color) 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Cost:** $6,165

CORDATA

☐ AT Desktop Q
Single-user **Memory:** 640K **CPU:** 80286 **Graphics:** Monochrome **Interface(s):** RS-232C; Parallel **Introduced:** 1985

☐ AT Desktop QT40
Single-user **Memory:** 640K **CPU:** 80286 **Graphics:** Monochrome **Interface(s):** RS-232C; Parallel **Introduced:** 1985

☐ AT Desktop Q20
Single-user **Memory:** 640K **CPU:** 80286 **Graphics:** Monochrome **Interface(s):** RS-232C; Parallel **Introduced:** 1985

☐ Corona Mega PC
Multiuser-multiprogramming **Memory:** 512K **CPU:** 8088 **Clock:** 8 MHz **Users:** 8 **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 640 X 400 pixels **Interface(s):** RS-232C; Centronics **Units sold:** 500 since 1984 **Cost:** $6,175-$18,005

☐ Desktop PC 400
Single-user **Memory:** 512K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; 640 X 400 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1984

☐ Desktop PC 400 Model 205
Single-user **Memory:** 512K **CPU:** 8088 **Graphics:** Monochrome **Interface(s):** RS-232C; Centronics

☐ Desktop PC 400 Model 25
Single-user **Memory:** 512K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; 640 X 400 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1984

CORVUS OEM GROUP

☐ OTI-1; OTI-2
Multiuser-multiprogramming **Memory:** 1M to 5M **CPU:** 80286 **Clock:** 8 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color **Introduced:** 1985

☐ 83000 Series
Single-user **Memory:** 64K to 640K **CPU:** 8088 **Interface(s):** 2 RS-232C; Parallel; 2 20/60 mA; Centronics

☐ 84000 Series
Single-user **Memory:** 64K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Interface(s):** 2 RS-232C; 1 Parallel; 2 20/60 mA; Centronics **Introduced:** 1984

D&A SYSTEMS, INC.

☐ PC/XT/AT
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Cost:** $795-$1,845

DATAMAXX USA CORP.

☐ Exxpert II
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Interface(s):** 4 RS-232C; 1 Parallel **Introduced:** 1984

DATAPOINT CORP.

☐ STARPORT
Multiuser-multiprogramming **Memory:** 512K **CPU:** 80286 **Clock:** 8 MHz **Users:** 17 **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; 640 X 400 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985 **Cost:** $5,995

DECISION DATA COMPUTER CORP.
(division of Decision Industries Corp.)

☐ DDCC 5021-01
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 24 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 320 X 200; 720 X 385 pixels **Interface(s):** RS-232C; Parallel

☐ Model 5020
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 24 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 320 X 200; 720 X 385 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1984 **Cost:** $2,600-$5,700

☐ Model 5021
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 24 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 X 200; 720 X 385 pixels **Interface(s):** RS-232C; Parallel **Cost:** $2,600-$5,700

DECISION SUPPORT INDUSTRIES

☐ Generic XT
Single-user **Memory:** 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $995-$1,600

☐ Personality
Single-user **Memory:** 640K **CPU:** 8088-2 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,300-$1,700

☐ Priviledge
Single-user **Memory:** 1M **CPU:** 80286 **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,995-$2,895

DELTA DATA SYSTEMS CORP.
Service Division

☐ Model 8400T Tempest
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Graphics:** Monochrome **Interface(s):** 2 RS-232C **Introduced:** 1985

DIGITAL SOLUTIONS, INC. (PA)

☐ DSI PC
Single-user **Memory:** 64K to 100K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; 2 Parallel **Units sold:** 950 since 1985 **Cost:** $1,295-$2,495

☐ DSI PC Portable
Single-user **Memory:** 64K to 100K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Units sold:** 100 since 1986 **Cost:** $1,295-$2,495

☐ DSI PC-AT
Multiuser-multiprogramming **Memory:** 256K to 2.6M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; 2 Parallel **Units sold:** 25 since 1986 **Cost:** $1,495-$3,995

☐ DSI PC-AT Portable
Multiuser-multiprogramming **Memory:** 256K to 2.6M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Units sold:** 25 since 1986 **Cost:** $1,495-$3,995

CROSSPOINT SYSTEMS, INC.
1710 Willow Creek Circle
Eugene, OR 97402
(503) 485-4254

Share peripherals among multiple PCs in any combination up to 8, all under automatic software control. See the Crosspoint Systems ad under the heading Local Area Networks for the ultimate solution in data switching.

☐ DSI PC-5251
Single-user **Memory:** 64K to 100K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; 2 Parallel **Units sold:** 200 since 1985 **Cost:** $1,995-$2,695

ELECTRO-DESIGN, INC.

☐ IMP-12
Single-user **Memory:** 64K to 256K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 200 pixels **Interface(s):** RS-232C; Centronics **Units sold:** 1,590 since 1983

☐ IMP-18
Single-user **Memory:** 256K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Color; 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 341 since 1983

☐ IMP-6
Single-user **Memory:** 64K to 1M **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 789 since 1984

EPSON AMERICA, INC.

☐ Equity I
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $995

☐ Equity II
Single-user **Memory:** 640K **CPU:** 8086 **Clock:** 4.77; 7.16 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 348; 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $1,695

☐ Equity III
Single-user **Memory:** 640K **CPU:** 80286 **Clock:** 6 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $3,495-$4,495

☐ QX-16
Single-user **Memory:** 256K to 512K **CPU:** Z80; 8088 **Clock:** 4; 6 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 640 X 400 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1984

ERGO ELECTRONICS CO., LTD.

☐ Macro-88 AT
Single-user **Memory:** 512K **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** 4 RS-232C; Parallel

☐ Macro-88 Super AT
Single-user **Memory:** 512K to 1M **CPU:** 80286 **Interface(s):** RS-232C; Parallel

☐ Macro-88 Super Turbo
Single-user **Memory:** 512K to 640K **CPU:** 80286 **Interface(s):** 2 RS-232C; Parallel

☐ Macro-88 Turbo
Multiuser-multiprogramming **Memory:** 512K to 1M **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; Parallel

ERICSSON INFORMATION SYSTEMS

☐ Ericsson PC
Single-user **Memory:** 256K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 400 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 3,000 since 1984 **Cost:** $1,500-$4,000

ESPRIT SYSTEMS, INC.

☐ Esprit B-20
Multiuser-multiprogramming **Memory:** 256K to 640K **CPU:** 8088 **Users:** 3 **Interface(s):** RS-232C; Parallel **Introduced:** 1986

FINANCIAL MICRO-DATA, INC.

☐ QuickPC
Single-user **Memory:** 256K **CPU:** 8088 **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,195-$1,895

FORTUNE SYSTEMS CORP.

☐ Fortune BASIC Workstation
Single-user **Memory:** 128K to 640K **CPU:** MC68000; 8088 **Clock:** 4.7; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 350 pixels **Interface(s):** 2 RS-232C **Introduced:** 1984 **Cost:** $995

FOUNTAIN TECHNOLOGIES, INC.

☐ Fountain AT-286
Multiuser-multiprogramming **Memory:** 512K to 1M **CPU:** 80286 **Interface(s):** RS-232C; Parallel; Centronics **Introduced:** 1986

☐ Fountain Turbo PC/XT
Single-user **Memory:** 256K to 640K **CPU:** 8088-2 **Interface(s):** RS-232C; Parallel **Introduced:** 1986

☐ Fountain XT
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Adjustable screen position; Detachable keyboard; Function keys; Direct cursor addressing **Graphics:** Monochrome; 720 X 348 pixels

☐ Fountain XT Model II
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Adjustable screen position; Detachable keyboard; Function keys; Direct cursor addressing **Graphics:** Monochrome; 720 X 348 pixels

☐ The Fountain Office Pro
Multiuser-multiprogramming **Memory:** 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Adjustable screen position; Detachable keyboard; Function keys; Direct cursor addressing **Graphics:** Monochrome; 720 X 348 pixels

☐ XT-186
Single-user **Memory:** 256K to 640K **CPU:** 80186 **Clock:** 8 MHz **Features:** Adjustable screen position; Detachable keyboard; Function keys; Direct cursor addressing **Graphics:** Color

FRANKLIN COMPUTER CORP.

☐ PC-8000
Single-user **Memory:** 512K **CPU:** 8088 **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $999

FULLER COMPUTER CORP.

☐ Fuller-AT
Single-user **Memory:** 256K **CPU:** 8088 **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Cost:** $2,695-$3,595

☐ Fuller-XT
Single-user **Memory:** 256K **CPU:** 8088 **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Cost:** $995-$2,495

GOLDEN STAR TECHNOLOGY, INC.

☐ G.S.T. AT
Single-user **Memory:** 640K to 1M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

GULFSTREAM MICRO SYSTEMS, INC.

☐ APC/286
Multiuser-multiprogramming **Memory:** 256K to 1M **CPU:** 80286 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Units sold:** 100 since 1985 **Cost:** $3,495-$7,659

☐ PC/286
Multiuser-multiprogramming **Memory:** 640K **CPU:** 80286 **Clock:** 8 MHz **Users:** 8 **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; RS-449/422; Parallel **Units sold:** 100 since 1985 **Cost:** $2,995-$7,000

☐ PC/88
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; Parallel **Units sold:** 300 since 1985 **Cost:** $1,895-$6,000

☐ PC/88-2
Single-user **Memory:** 256K to 640K **CPU:** 8088-2 **Clock:** 4.77; 7.5 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Units sold:** 100 since 1985 **Cost:** $1,495-$5,000

HARRIS/LANIER
(formerly Lanier Business Products, Inc.)

☐ Lanier Concept 2000
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad **Graphics:** Monochrome; Color; 640 X 200 or 720 X 350 pixels **Interface(s):** 2 RS-232C **Introduced:** 1985

HEWLETT-PACKARD CO.

☐ Vectra PC
Multiuser-multiprogramming **Memory:** 256K to 3.64M **CPU:** 80286 **Clock:** 8 MHz **Features:** Adjustable screen position; Nonglare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 400 pixels **Introduced:** 1985 **Cost:** $3,199-$6,604

HEXACE TECHNOLOGIES, INC.

☐ Hexace System II
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 24 lines x 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Color; 640 or 320 X 200 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 500 since 1985 **Cost:** $2,495

HITECH INTERNATIONAL, INC.

☐ SAM 2001 XT; SAM 3001 AT
Multiuser-multiprogramming **Memory:** 640K to 1M **CPU:** 80286 **Clock:** 8 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; Parallel **Units sold:** 1,595 since 1985 **Cost:** $795-$1,595

HONEYWELL INFORMATION SYSTEMS, INC.

☐ PC AP
Single-user **Memory:** 256K to 640K **CPU:** 80286 **Clock:** 8 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Color **Introduced:** 1985

☐ PC EP
Single-user **Memory:** 256K to 640K **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome **Interface(s):** 1 RS-232C; 1 Parallel; 20/60 mA; RS-422 **Cost:** $1,450-$2,650

☐ PC XP
Single-user **Memory:** 256K to 640K **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Interface(s):** RS-232C; Centronics

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Personal Computer AT 5170 Model 239
Multiuser-multiprogramming **Memory:** 512K **CPU:** 80286 **Clock:** 6 MHz **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys **Introduced:** 1985 **Cost:** $5,295

☐ Personal Computer AT 5170 Model 68
Multiuser-multiprogramming **Memory:** 256K to 3M **CPU:** 80286 **Clock:** 6 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color **Interface(s):** Parallel; RS-232C **Introduced:** 1984 **Cost:** $3,995

☐ Personal Computer AT 5170 Model 99
Multiuser-multiprogramming **Memory:** 512K to 3M **CPU:** 80286 **Clock:** 6 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1984 **Cost:** $4,895

☐ Personal Computer AT 5170 Models 319, 339
Multiuser-multiprogramming **Memory:** 128K to 640K **CPU:** 80286 **Clock:** 8 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $5,295

☐ Personal Computer AT/370 Models 919 and 939
Multiuser-multiprogramming **Memory:** 512K to 2M **CPU:** 80286 **Clock:** 8 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $8,985

☐ Personal Computer AT/370 5170 Model 599
Reviewed Nov 1985 p. 86.
Multiuser-multiprogramming **Memory:** 512K to 8M **CPU:** 80286 **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys **Interface(s):** RS-232C; Parallel **Introduced:** 1984 **Cost:** $8,585

☐ Personal Computer AT/370 5170 Model 739
Memory: 512K **CPU:** 80286 **Clock:** 6 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys **Introduced:** 1985 **Cost:** $8,985

☐ Personal Computer XT 5160 Model 470
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Introduced:** 1985 **Cost:** $3,065

☐ Personal Computer XT 5160 Model 68
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Introduced:** 1985 **Cost:** $2,145

☐ Personal Computer XT 5160 Model 78
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Introduced:** 1985 **Cost:** $2,295

☐ Personal Computer XT 5160 Model 87
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Non-glare screen; Adjustable screen position; Numeric keypad; Function keys **Graphics:** Monochrome; Color **Introduced:** 1983

☐ Personal Computer XT 5160 Models 267, 268, 277, 278, 088, 089
Multiuser-multiprogramming **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Weight:** 27.4-30.6 lbs. **Introduced:** 1986 **Cost:** $2,145-$2,895

☐ Personal Computer XT/370 5160 Model 589
Multiuser-multiprogramming **Memory:** 256K to 4M **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard **Graphics:** Monochrome; Color **Introduced:** 1983

☐ Personal Computer 5150
Single-user **Memory:** 64K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 40 or 80 chars. **Features:** Non-glare screen; Numeric keypad; Function keys; Light pen; Joystick **Graphics:** Monochrome; Color; 640 X 200; 320 X 200 pixels **Interface(s):** RS-232C; 20/60 mA **Units sold:** 30,000 since 1981 **Cost:** $1,845-$1,995

☐ RT Personal Computer 6150 Models 20, 25, A25
Multiuser-multiprogramming **Memory:** 1M to 4M **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 512; 1,024 X 768 pixels **Interface(s):** RS-232C **Introduced:** 1986 **Cost:** $14,945-$19,510

☐ RT Personal Computer 6151 Model 10
Single-user **Memory:** 1M to 3M **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 512; 1,024 X 768 pixels **Interface(s):** RS-232C **Introduced:** 1986 **Cost:** $11,700

☐ System/36 PC Model 5364
Multiuser-multiprogramming **Memory:** 256K to 512K **Users:** 4 **Cost:** $5,995-$8,090

☐ 3270 Personal Computer
Reviewed Mar 1985 p. 74.
Single-user **Memory:** 256K to 640K **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 350 pixels **Introduced:** 1983 **Cost:** $3,520-$6,800

☐ 3270 Personal Computer AT (XMA)
Multiuser-multiprogramming **Memory:** 1M to 2MB **CPU:** 80286 **Clock:** 8 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $7,140-$7,870

☐ 3270 Personal Computer AT/G, AT/GX
Single-user **Memory:** 512K to 2M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $7,510

☐ 3270-PC (5271 and XMA)
Memory: 640K to 2M **CPU:** 80286 **Clock:** 8 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $3,860-$5,445

☐ 3270-PC/G
Single-user **Memory:** 384K to 640K **CPU:** 8088 **Display:** 32 or 49 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Tablet; Mouse **Graphics:** Monochrome; Color; 720 X 512 pixels **Interface(s):** IEEE-488 **Introduced:** 1984 **Cost:** $9,535

☐ 3270-PC/GX
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Display:** 50 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard **Graphics:** Monochrome; Color; 1,024 X 1,024; 960 X 1,000 pixels **Interface(s):** IEEE-488 **Introduced:** 1984 **Cost:** $16,785

INNOVATIVE COMPUTER LEASING, INC.

☐ FAST-1; FAST+
Single-user **Memory:** 640K to 1M **CPU:** 80286 **Clock:** 8 MHz **Display:** 26 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Cost:** $2,380-$2,935

INTELLIGENT DATA SYSTEMS, INC.

☐ PC-286AT
Memory: 512K to 15M **CPU:** 80286 **Clock:** 6 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel

☐ PC-8088
Memory: 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel

INTELLIGENT TECHNOLOGIES INTERNATIONAL CORP.

☐ Kennet Business Computer
Single-user; Multiuser-multiprogramming **Memory:** 256K to 1M **CPU:** 8086 **Clock:** 8 MHz **Users:** 3 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 800 X 400 pixels **Interface(s):** 2 RS-232C; Parallel **Introduced:** 1984 **Cost:** $2,800-$5,900

INTERFACE ELECTRONICS, INC. (MI)

☐ Neptune Business Computer
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 40 or 80 chars. **Features:** Detachable keyboard; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** 2 RS-232C; Centronics **Units sold:** 183 since 1983 **Cost:** $2,700-$4,950

INTERNATIONAL TECHNOLOGY CORP.

☐ ITC PC-AT (Tempest)
Multiuser-multiprogramming **Memory:** 256K to 3M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $5,500-$13,000

☐ ITC PC-XT (Tempest)
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $4,200-$8,000

ITT INFORMATION SYSTEMS

☐ ITT XTRA
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** RS-232C; 1 Parallel **Introduced:** 1984 **Cost:** $1,395-$2,345

TALL TREE SYSTEMS
1120 San Antonio Road
Palo Alto, CA 94303
415-964-1980

JRAM-RT - 8MB Memory board for the IBM RT. Uses 1MB chips. Fits in one of the two RT expansion slots. 32 bit memory board with Error Correcting Code (ECC). No software or hardware modifications necessary. Increases RT performance. Applications execute faster.

☐ ITT XTRA XP
Single-user **Memory:** 512K to 1.64M **CPU:** 80286 **Clock:** 6 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 or 320 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $2,995-$3,125

IVY MICROCOMPUTER CORP.

☐ DT-20
Multiuser-multiprogramming **Memory:** 512K to 1M **CPU:** 80286 **Clock:** 8 MHz **Users:** 32 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200 or 400 pixels **Interface(s):** 2 RS-232C; RS-449/422 **Units sold:** 350 since 1985

JADE COMPUTER PRODUCTS, INC.

☐ JADE XPC
Multiuser-multiprogramming **Memory:** 64K to 4M **CPU:** 8088 **Clock:** 4.77; 7 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Function keys **Graphics:** Monochrome; Color; 720 X 400 pixels **Interface(s):** RS-232C; Centronics **Units sold:** 1,000 since 1984 **Cost:** $1,000-$6,000

KAMERMAN LABS

☐ AT-Plus-1800
Single-user **Memory:** 1M to 16M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

KAYPRO CORP.

☐ Kaypro PC
Memory: 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** RS-232C; Centronics **Cost:** $1,595

☐ Kaypro 286i
Multiuser-multiprogramming **Memory:** 512K to 640K **CPU:** 80286 **Clock:** 6 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Color; 640 X 200 pixels **Interface(s):** RS-232C; 2 Centronics **Introduced:** 1985 **Cost:** $2,995-$5,995

LASERMASTER, LTD.

☐ LaserMaster 286/Raster Master CAD/CAP
Single-user **Memory:** 1M to 6M **CPU:** 80286 **Clock:** 8 MHz **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 1,280 X 1,024 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 40 since 1986 **Cost:** $11,000-$15,000

LEADING EDGE HARDWARE PRODUCTS, INC.

☐ Leading Edge Model D PC
Single-user **Memory:** 512K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 720 X 350 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985 **Cost:** $1,295-$1,995

LEE DATA CORP.

☐ Model 073 Personal Workstation
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 24 or 32 lines X 80 chars. **Features:** Detachable keyboard; Function keys **Graphics:** Monochrome; Color; 720 X 408 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $3,200-$3,500

L/F TECHNOLOGIES, INC.

☐ Model 1610
Multiuser-multiprogramming **Memory:** 1M **CPU:** Z80B; Z80H; 8087; 80186 **Clock:** 8 MHz **Users:** 4 **Display:** 24 lines X 132 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 720 X 300 pixels **Interface(s):** 10 RS-232C; Centronics; RS-422 **Units sold:** 1,000 since 1985

☐ Model 810
Multiuser-multiprogramming **Memory:** 128K **CPU:** Z80B; Z80H; 80186; 8087 **Clock:** 6 MHz **Users:** 5 **Display:** 25 lines X 132 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 720 X 300 pixels **Interface(s):** 12 RS-232C; IEEE-696; Centronics; RS-422 **Units sold:** 1,000 since 1985

LOGICAL BUSINESS SYSTEMS

☐ L-XT
Single-user **Memory:** 256K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Low-profile keyboard **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** 2 RS-232C; 1 Parallel **Introduced:** 1983

MAD INTELLIGENT SYSTEMS, INC.

☐ MAD-2, Model D1000
Multiuser-multiprogramming **Memory:** 1M to 16M **CPU:** 80286 **Clock:** 6; 8 MHz **Users:** 5 or 6 **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Function keys **Graphics:** Color; 640 or 320 X 200 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985

MAGNUM COMPUTER, INC.
ComX Division

☐ Magnum XT/Mark 2
Single-user **Memory:** 640K **CPU:** 8088-2 **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; Centronics **Introduced:** 1986 **Cost:** $1,295-$2,095

MAI BASIC FOUR, INC.

☐ MAI 1500
Multiuser-multiprogramming **Memory:** 640K **CPU:** 80286 **Clock:** 8 MHz **Users:** 3 **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 350 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1986

MAINSTREET COMPUTER CORP.

☐ ADEPT AT
Single-user **Memory:** 640K **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Cost:** $1,975-$2,-304

☐ ADEPT DC 286
Single-user **Memory:** 512K **CPU:** 80286 **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,975-$2,294

☐ ADEPT DC 88T
Single-user **Memory:** 640K **CPU:** 8088 **Cost:** $699-$1,828

☐ ADEPT PC
Single-user **Memory:** 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Cost:** $749-$1,228

☐ AT plus
Single-user **Memory:** 512K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Cost:** $3,988-$4,211

☐ Enhanced XT
Single-user **Memory:** 256K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Cost:** $2,284-$2,504

MAXTRON

☐ AT Basic System
Single-user **Memory:** 512K to 1M **CPU:** 80286 **Interface(s):** RS-232C; Parallel

☐ Turbo System XT-A1
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel

MET-CHEM INTERNATIONAL CORP.

☐ Met-Chem PC-AT
Single-user **Memory:** 640K **CPU:** 80286 **Graphics:** Monochrome **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,595-$2,950

☐ Met-Chem PC-XT
Single-user **Memory:** 640K **CPU:** 8088 **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $495-$2,350

☐ Met-Chem PC-XT Turbo
Single-user **Memory:** 640K **CPU:** 8088-2 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $560-$2,415

MICRO CONNECTIONS, INC.

☐ MC-88
Multiuser-multiprogramming **Memory:** 256K to 512K **Clock:** 8 MHz **Users:** 8 **Display:** 24 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 640 X 400 pixels **Interface(s):** RS-232C; 2 Parallel **Units sold:** 35 since 1984 **Cost:** $1,595

MICRO FIVE CORP.

☐ Series 5000
Memory: 512K to 16M **CPU:** 80286 **Clock:** 10 MHz **Users:** 16 **Interface(s):** 1 RS-232C; 1 Centronics **Introduced:** 1985

MICRO 1

☐ Micro 1 AT
Single-user **Memory:** 640K to 1M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,685

☐ Micro 1 XT
Single-user **Memory:** 25K to 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $499-$610

THE MOM CORP.

☐ Smartstation
Single-user **Memory:** 1M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

MONROE SYSTEMS FOR BUSINESS

☐ System 2000
Multiuser-multiprogramming **Memory:** 128K to 896K **CPU:** 80186 **Clock:** 8 MHz **Users:** 4 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 400 pixels **Interface(s):** 2 RS-232C; Centronics **Introduced:** 1983 **Cost:** $3,095-$13,995

MULTITECH ELECTRONICS, INC.
SEE AD ON PAGE 71

☐ Accel 900
Single-user **Memory:** 512K **CPU:** 80286 **Graphics:** Monochrome **Interface(s):** 2 RS-232C; Centronics **Introduced:** 1986 **Cost:** $2,459-$2,589

☐ Plus 700
Single-user **Memory:** 256K to 640K **CPU:** 8088-2 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 720 X 300 pixels **Interface(s):** RS-232C; Centronics **Units sold:** 30,000 since 1986 **Cost:** $1,269-$1,359

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	CPU Speed	Mother-board Memory	Max. # of Half-Ht Drives	Display	Operating System	Expanded Memory/ Multifunction Board	Warranty Period	Suggested List
Multitech 900	**10 or 8MHz**	**512K RAM Up to 1MB**	**5**	**Hi-Res. Soft-white**	**MS-DOS 3.1**	**Lotus/Intel/ Microsoft EMS Up to 3MB RAM**	**12-Months**	**$2395.00†**
IBM PC/AT	8MHz Only	512K RAM	3	Not Included	Not Included	Not Included	12-Months	$5295.00*
Epson Equity III	6 or 8MHz	640K RAM	4	Not Included	MS-DOS 3.1	Not Included	12-Months	$3195.00
Compaq Deskpro 286	6 or 8MHz	256K RAM Up to 640K	4	Not Included	Not Included	Not Included	3-Months	$2999.00
Sperry PC/IT	6 or 8MHz	512K RAM Up to 1MB	4	Not Included	MS-DOS 3.1	Not Included	12-Months	$3395.00
Tandy 3000	8MHz Only	640K RAM Up to 1MB	3	Not Included	Not Included	Not Included	3-Months	$4299.00**

* Includes 30MB Hard Disk Drive
** Includes 40MB Hard Disk Drive
† Multitech 900 with 30MB Hard Disk Drive, $3,295;
Multitech 900 with 40MB Hard Disk Drive, $3,595.

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CIRCLE NO. 325 ON READERS SERVICE CARD

☐ **Popular 500**
Single-user **Memory:** 256K to 512K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200 pixels (monochrome); 320 X 200 pixels (color) pixels **Interface(s):** RS-232C; Centronics **Units sold:** 10,000 since 1985 **Cost:** $819-$1,095

NBI, INC.

☐ **OASys 2000 Personal Computing Workstation**
Multiuser-multiprogramming **Memory:** 256K to 1M **CPU:** 80186 **Clock:** 8 MHz **Users:** 32 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position **Graphics:** Monochrome; 800 X 400 pixels **Interface(s):** RS-232C **Introduced:** 1983 **Cost:** $2,995

☐ **OASys 4100S, 4100X**
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 X 200; 640 X 200 pixels **Interface(s):** 2 RS-232C; Centronics **Introduced:** 1984 **Cost:** $2,725-$5,875

NCR CORP.

☐ **InteracTV**
Single-user **Memory:** 128K to 512K **CPU:** Z80; 8088 **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Touch screen **Graphics:** Color; 640 X 400 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $8,730-$10,730

☐ **InteracTV-2**
Single-user **CPU:** Z80; 8088 **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Touch screen **Graphics:** Color; 640 X 400; 320 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $8,500

☐ **PC4**
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200 (color); 720 X 350 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1984 **Cost:** $2,400-$4,960

☐ **PC4i**
Multiuser-multiprogramming **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Numeric keypad; Function keys **Interface(s):** Parallel **Introduced:** 1985 **Cost:** $2,485

☐ **PC6**
Single-user **Memory:** 40M **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel

☐ **PC8**
Single-user; Multiuser-multiprogramming **Memory:** 256K to 4M **CPU:** 80286 **Clock:** 8 MHz **Users:** 16 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Numeric keypad; Function keys; Detachable keyboard; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 400 pixels **Interface(s):** **Introduced:** 1985 **Cost:** $3,795-$5,505

NEC INFORMATION SYSTEMS, INC.

☐ **APC III**
Single-user **Memory:** 128K to 640K **CPU:** 8086 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Low-profile keyboard **Graphics:** Monochrome; Color; 640 X 400 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1984 **Cost:** $1,595-$4,295

☐ **APC IV**
Single-user **Memory:** 640K to 10.5M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; Parallel **Introduced:** 1986 **Cost:** $3,645-$5,970

NELMA INFORMATION, INC.

☐ **Persona 16**
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.2 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 320 pixels **Interface(s):** RS-232C; Parallel; Centronics **Units sold:** 1,000 since 1984

☐ **Persona 16XT**
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.2 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Low-profile keyboard **Graphics:** Monochrome; Color; 640 X 320 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 750 since 1984 **Cost:** $2,995

NIXDORF COMPUTER CORP.

☐ **8810 Model 65**
Single-user **Memory:** 256K to 768K **CPU:** 80186 **Display:** 24 or 27 lines X 80 or 132 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 800 X 450 pixels **Interface(s):** RS-232C **Introduced:** 1984 **Cost:** $4,810-$8,610

NORTH AMERICAN MICROTECH, INC.

☐ **Solution 5000 PC**
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 X 640 pixels **Interface(s):** 2 RS-232C; Parallel **Introduced:** 1984 **Cost:** $1,250-$2,600

NORTH STAR COMPUTERS, INC.

☐ **DIMENSION 15; DIMENSION 30**
Multiuser-multiprogramming **Memory:** 512K **CPU:** 80186 **Users:** 12 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard **Graphics:** Monochrome; Color; 640 X 200 or 400 pixels **Interface(s):** 2 RS-232C; Centronics; Parallel **Units sold:** 3,000 since 1984 **Cost:** $5,000-$25,000 (file-server); $1,795 (Workstation)

☐ **DIMENSION 300; DIMENSION 1200**
Multiuser-multiprogramming **Memory:** 1M **CPU:** 80186 **Clock:** 8 MHz **Users:** 2-12 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard **Graphics:** Monochrome; Color; 640 X 200 or 400 pixels **Interface(s):** RS-232C; Centronics; Parallel **Introduced:** 1985 **Cost:** $12,900-$19,900

☐ **DIMENSION 36**
Multiuser-multiprogramming **Memory:** 512K **CPU:** 80186 **Features:** Adjustable screen position; Detachable keyboard **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Centronics **Introduced:** 1986 **Cost:** $6,150-$19,900 (Fileserver); $1,795 (Workstation)

NORTHEASTERN SOFTWARE

☐ **Northeastern Software Turbo 286**
Single-user **Memory:** 640K **CPU:** 8088 **Interface(s):** 2 RS-232C; Parallel **Introduced:** 1986

OLIVETTI USA
Office Products Division

☐ **Olivetti M24 PC**
Single-user **Memory:** 256K to 512K **CPU:** 8086-2 **Clock:** 7.44 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 400 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 400,000 since 1985 **Cost:** $2,420-$4,995

☐ **Olivetti M28 Advanced Technology PC**
Single-user **Memory:** 512K to 1M **CPU:** 80286 **Clock:** 7.44 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard **Graphics:** Monochrome; Color; 640 X 400 pixels **Interface(s):** RS-232C; Centronics **Units sold:** 60,000 since 1985

OSBORNE COMPUTER CORP.

☐ **Osborne 2100**
Memory: 256K to 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel

PANASONIC INDUSTRIAL CO.
Computer Products Division

☐ **Business Partner**
Single-user **Memory:** 256K to 640K **CPU:** 8086-2 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,295-$1,495

☐ **Business Partner 286**
Multiuser-multiprogramming **Memory:** 512K to 1M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $2,795-$2,995

☐ **Executive Partner FT-70**
Single-user **Memory:** 256K to 640K **CPU:** 8086-2 **Clock:** 7.16; 4.77 MHz **Display:** 25 lines X 80 or 40 chars. **Features:** Numeric keypad; Function keys **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985

☐ **RL-H7100 Sr. Partner**
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; (color) 320 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1984 **Cost:** $3,495

☐ **RL-7000W Sr. Partner**
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; (color) 320 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1984 **Cost:** $2,195

PASCO INTERNATIONAL, INC.

☐ **ATLANTIS Model 256/64-PC**
Single-user **Memory:** 512K **CPU:** 80286 **Clock:** 4; 6 MHz **Display:** 24 lines X 130 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Color; 640 X 400 pixels **Interface(s):** RS-232C; RS-449/422; IEEE-696; 20/60 mA; Parallel **Introduced:** 1980

PC DESIGNS, INC.

☐ **FD-1000**
Single-user **Memory:** 64K to 1M **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 690 X 240 pixels **Interface(s):** 2 RS-232C; 2 Centronics **Units sold:** 2,000 since 1985

☐ **HD-1000**
Single-user; Multiuser-multiprogramming **Memory:** 64K to 1M **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 690 X 240 pixels **Interface(s):** 2 RS-232C; 2 Parallel; 2 Centronics **Units sold:** 1,500 since 1985 **Cost:** $2,250-$2,600

☐ Plain Vanilla
Memory: 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; 2 Centronics **Cost:** $995-$1,495

☐ Turbo AT
Single-user **Memory:** 1M **CPU:** 80286 **Graphics:** Monochrome **Interface(s):** 2 RS-232C; 2 Centronics **Introduced:** 1986

PC'S LIMITED

☐ PC's 286
Single-user **Memory:** 1M **CPU:** 80286 **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $2,295-$2,695

☐ Turbo PC
Memory: 640K **CPU:** 8088-2 **Clock:** 4.77; 6.66 MHz **Introduced:** 1985

☐ Turbo PC AT
Memory: 1M **CPU:** 80286 **Clock:** 6 MHz **Interface(s):** 2 RS-232C; Parallel **Introduced:** 1985

PENTABS

☐ PENTABS PC
Single-user **Memory:** 512K **CPU:** 8088 **Interface(s):** RS-232C; Parallel **Introduced:** 1985

PERIPHERALS PLUS

☐ XT Plus
Single-user **Memory:** 64K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 24 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 350 pixels **Interface(s):** RS-232C; 2 Parallel **Units sold:** 1,000 since 1985 **Cost:** $995-$2,995

PERSONAL COMPUTER PRODUCTS, INC. (PCPI)

☐ PC Solution
Single-user **Memory:** 64K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 or 132 chars. **Graphics:** Monochrome; Color; 720 X 350 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1984 **Cost:** $995-$2,495

PHILIPS INFORMATION SYSTEMS, INC.

☐ P3100
Single-user **Memory:** 256K to 512K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 325 or 400 pixels **Interface(s):** 1 RS-232C; 1 Parallel **Introduced:** 1984

☐ P3102
Single-user **Memory:** 512K to 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Centronics **Introduced:** 1986 **Cost:** $1,752-$2,750

☐ P3200
Single-user **Memory:** 512K to 1M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Centronics **Introduced:** 1986 **Cost:** $3,795-$4,650

PRONTO COMPUTERS, INC.

☐ Series 16
Single-user **Memory:** 256K to 1M **CPU:** iAPX 186 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Non-glare screen **Graphics:** Monochrome; Color; 640 X 480 pixels **Interface(s):** 2 RS-232C; Parallel **Units sold:** 2,200 since 1983

PS COMPUTERS

☐ PS Turbo 640
Memory: 640K **CPU:** 8088-2 **Clock:** 4.77; 7.5 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Direct cursor addressing **Graphics:** Monochrome **Interface(s):** 2 RS-232C; Centronics **Cost:** $1,700-$2,300

QDP COMPUTER SYSTEMS, INC.

☐ QDP-16 Series
Multiuser-multiprogramming **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 8 MHz **Users:** 32 **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Function keys **Graphics:** Monochrome; Color; 640 X 400; 1,024 X 1,024 pixels **Interface(s):** RS-232C; Centronics **Units sold:** 650 since 1984 **Cost:** $1,295-$5,195

QIC RESEARCH, INC.

☐ QIC 286-AT
Single-user **Memory:** 512K to 1M **CPU:** 80286 **Graphics:** Monochrome **Interface(s):** RS-232C; Parallel **Introduced:** 1986

QUANTEK CORP.

☐ QUANTEK System 2000
Multiuser-multiprogramming **Memory:** 640K to 1M **CPU:** 80286 **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Centronics **Units sold:** 1,000 since 1985

SAMSUNG ELECTRONICS AMERICA, INC.

☐ AT Alternative
Single-user **Memory:** 640K to 5M **CPU:** 80286 **Interface(s):** 8 RS-232C; Parallel **Introduced:** 1985

SANTA CLARA SYSTEMS, INC.

☐ ATterminal
Single-user **Memory:** 64K to 1M **CPU:** 80286 **Clock:** 10 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 or 320 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $1,195-$1,995

☐ PCterminal (Networking Station)
Single-user **Memory:** 64K to 256K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Adjustable screen position; Non-glare screen **Graphics:** Monochrome; 640 or 320 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1984 **Cost:** $1,195-$1,995

SANYO BUSINESS SYSTEMS CORP.
(Computer Division)

☐ MBC-555-2
Single-user **Memory:** 128K to 512K **CPU:** 8088 **Clock:** 3.6 MHz **Display:** 25 lines X 80 chars. **Features:** Joystick **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** Centronics **Units sold:** 75,000 since 1984

☐ MBC-855/HD-20
Single-user; Multiuser-multiprogramming **Memory:** 256K to 640K **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Users:** 3 **Display:** 25 lines X 80 chars. **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** Centronics **Introduced:** 1985

☐ MBC-880/885
Single-user **Memory:** 256K to 640K **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** Centronics **Units sold:** 10,000 since 1985

☐ MBC-990
Multiuser-multiprogramming **Memory:** 512K to 1.2M **CPU:** 80286 **Clock:** 6; 8 MHz **Users:** 3 **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985

SCOTTSDALE SYSTEMS

☐ IDS PC-8088
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Interface(s):** RS-232C; Parallel

SENTINEL COMPUTER CORP.

☐ PCX Base XT System
Multiuser-multiprogramming **Memory:** 256K **CPU:** 8088 **Clock:** 4.7 MHz **Users:** 5 **Display:** 24 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome **Interface(s):** 4 RS-232C **Units sold:** 125 since 1985 **Cost:** $13,995

☐ PCX-AT Level 2 System
Multiuser-multiprogramming **Memory:** 256K to 640K **CPU:** 8088 **Users:** 9 **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome **Interface(s):** RS-232C; RS-449/422; Parallel **Units sold:** 12 since 1986

STAR TECHNOLOGIES, INC.

☐ STAR PC
Single-user **Memory:** 128K **CPU:** 8088; Z80A; Fairchild 9445 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 400 pixels **Interface(s):** 1 RS-232C; 1 Parallel **Units sold:** 25 since 1984

STEARNS COMPUTER SYSTEMS

☐ Stearns Desktop Computer
Single-user **Memory:** 128K to 896K **CPU:** 8086; 8087 **Clock:** 8 MHz **Display:** 26 lines X 89 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200 (color); 720 X 348 pixels **Interface(s):** RS-232C **Introduced:** 1983

STM ELECTRONICS CORP.

☐ STM AT
Multiuser-multiprogramming **Memory:** 1M **CPU:** 80286 **Clock:** 6 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Adjustable screen position **Graphics:** Monochrome **Introduced:** 1985 **Cost:** $3,495-$4,994

☐ STM Desktop PC
Multiuser-multiprogramming **Memory:** 256K to 512K **CPU:** 80186 **Clock:** 8 MHz **Display:** 25 lines X 80 chars **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels pixels **Interface(s):** Centronics **Introduced:** 1984 **Cost:** $1,759

SUPER COMPUTER, INC.

☐ Super EXT
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; 720 X 400 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $4,495

☐ Super XT Plus
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 400 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 1,000 since 1984 **Cost:** $2,395

SUPERCOM

☐ APC-AT
Single-user **Memory:** 640K to 1M **CPU:** 80286 **Clock:** 6; 8 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Interface(s):** RS-232C; Parallel **Cost:** $549-$1,590

☐ APC-XT
Single-user **Memory:** 640K **CPU:** 8088 **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Cost:** $549-$1,590

TALBOTT DEVELOPMENT CORP.

☐ COMET AT
Single-user **Memory:** 640K to 3M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $2,995-$3,995

☐ COMET XT
Single-user **Memory:** 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,295-$2,295

TANDEM COMPUTERS, INC.

☐ Dynamite 6541
Single-user **Memory:** 256K to 640K **CPU:** 8086 **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Low-profile keyboard **Graphics:** Monochrome; 320 or 640 X 200; 800 X 300 pixels **Interface(s):** RS-232C; RS-449/422; 20/60 mA **Introduced:** 1984

☐ Dynamite 6546
Single-user **Memory:** 256K to 640K **CPU:** 8086 **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Low-profile keyboard **Graphics:** Monochrome; 320 or 640 X 200; 800 X 300 pixels **Interface(s):** RS-232C; RS-449/422; 20/60 mA **Introduced:** 1984

☐ 6AT/20 Workstation
Multiuser-multiprogramming **Memory:** 512K to 11M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Centronics **Introduced:** 1986

☐ 6AT/40 Workstation
Multiuser-multiprogramming **Memory:** 640K to 11M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Centronics **Introduced:** 1986

TANDON CORP.

☐ PCA
Multiuser-multiprogramming **Memory:** 512K to 2M **CPU:** 80286 **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $2,695-$3,595

☐ PCX
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,115-$1,795

TANDY/RADIO SHACK

☐ Tandy 1000 (25-1000)
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Light pen; Joystick **Graphics:** Monochrome; Color; 320 X 200 pixels **Interface(s):** Parallel **Introduced:** 1984

☐ Tandy 1000 EX
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1986

☐ Tandy 1000 HD (25-1001)
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Light pen **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1985

☐ Tandy 1000 SX
Single-user **Memory:** 384K to 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1986

☐ Tandy 1200 (25-3001)
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.7 MHz **Display:** 25 lines x 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 400; (color) 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985

☐ Tandy 1200 HD
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.7 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985

☐ Tandy 2000 (26-5103), Tandy 2000 HD (26-5104)
Single-user **Memory:** 256K to 768K **CPU:** 80186 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Function keys; Mouse **Graphics:** Monochrome; Color; 640 X 400 pixels **Interface(s):** RS-232C; Parallel **Cost:** $1,599-$2,499

☐ Tandy 3000 (25-4000), Tandy 3000 HD (25-4010)
Multiuser-multiprogramming **Memory:** 512K to 12M **CPU:** 80286 **Clock:** 8 MHz **Users:** 4 **Display:** 25 lines X 80 chars. **Features:** Numeric keypad; Function keys **Graphics:** Monochrome; Color; 640 X 400; (color) 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $2,599-$3,599

☐ Tandy 3000 HL
Single-user **Memory:** 512K to 640K **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** Parallel **Introduced:** 1986

☐ Tandy 3000 40
Multiuser-multiprogramming **Memory:** 640K to 1M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

TAVA U.S.A., INC.

☐ TAVA PC Gold Series
Single-user **Memory:** 256K to 1M **CPU:** 8088-2 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 350; 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Units sold:** 30,000 since 1983

TECH PC

☐ TECH PC/AT
Single-user **Memory:** 512K **CPU:** 80286 **Clock:** 6 MHz **Graphics:** Monochrome **Cost:** $1,999-$2,599

☐ TECH PC/XT
Single-user **Memory:** 256K **CPU:** 8088 **Clock:** 4.77 MHz **Graphics:** Monochrome **Cost:** $799-1,499

☐ TECH TURBO PC/AT
Single-user **Memory:** 512K **CPU:** 80286 **Clock:** 6; 8 MHz **Graphics:** Monochrome **Cost:** $2,299-$2,899

☐ TECH TURBO PC/XT
Single-user **Memory:** 640K **CPU:** 8088 **Clock:** 4; 7 MHz **Graphics:** Monochrome **Cost:** $1,099-$1,799

TECONOMICS, INC.

☐ XT/Turbo/AT
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $600-$10,000

TELEVIDEO SYSTEMS, INC.

☐ PM/16
Multiuser-multiprogramming **Memory:** 256K **CPU:** Z80A; 80186 **Clock:** 4; 8 MHz **Interface(s):** 2 RS-232C; 4 RS-449/422; Centronics **Units sold:** 3,000 since 1984 **Cost:** $8,995

☐ PM/16T; PM/16T-85
Multiuser-multiprogramming **Memory:** 512K to 1M **CPU:** Z80; 80186 **Users:** 16 **Interface(s):** RS-232C; RS-449/422 **Introduced:** 1985 **Cost:** $8,995-$10,995

☐ PM/4T
Multiuser-multiprogramming **Memory:** 256K **CPU:** Z80A; 80186 **Clock:** 4; 8 MHz **Users:** 4 **Interface(s):** 2 RS-232C; 4 RS-449/422; Centronics **Introduced:** 1984

☐ PM/4T Plus
Multiuser-multiprogramming **Memory:** 512K to 1M **CPU:** Z80A; 80186 **Clock:** 4; 8 MHz **Users:** 12 **Interface(s):** RS-232C; RS-449/422; Centronics **Introduced:** 1985 **Cost:** $7,495

☐ Tele-PC Plus/Tele-XT Plus
Single-user **Memory:** 256K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Color; Monochrome; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1984 **Cost:** $2,995-$4,495

☐ TeleColor-PC
Single-user **Memory:** 256K **CPU:** 8088 **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Cost:** $2,995

☐ TeleColor-XT
Single-user **Memory:** 256K **CPU:** 8088 **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Cost:** $4,595

☐ TeleVideo-AT
Multiuser-multiprogramming **Memory:** 640K **CPU:** 80286 **Clock:** 6; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; 320 or 640 X 200 or 400 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985

TELEX COMPUTER PRODUCTS, INC.

(subsidiary of Telex Corp.)

☐ Telex 1260
Single-user; Multiuser-multiprogramming **Memory:** 256K to 640K **CPU:** 80186 **Clock:** 8 MHz **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985

☐ Telex 1280
Single-user **Memory:** 512K to 2.1M **CPU:** 80286 **Clock:** 6 MHz **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1985

TEXAS INSTRUMENTS

☐ Business-Pro
Multiuser-multiprogramming **Memory:** 512K to 15M **CPU:** 80286 **Clock:** 6 MHz **Users:** 8 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 300 or 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985 **Cost:** $3,995-$10,785

☐ Business-Pro XENIX System
Multiuser-multiprogramming **Memory:** 15M **CPU:** 80286 **Features:** Adjustable screen position; Non-glare screen **Graphics:** Monochrome; Color **Cost:** $9,935-$12,180

☐ Professional Computer
Single-user **Memory:** 128K to 768K **CPU:** 8088 **Clock:** 5 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Adjustable screen position; Low-profile keyboard **Graphics:** Monochrome; Color; 720 X 300 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1983 **Cost:** $2,395-$5,505

TOSHIBA AMERICA, INC.
Information Systems Division

☐ T300
Single-user **Memory:** 192K to 512K **CPU:** 8088 **Clock:** 6 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 500 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1983 **Cost:** $1,650-$2,395

TOWER SYSTEMS INDUSTRIES (T.S.I.)

☐ PC-TOWER/AT
Multiuser-multiprogramming **Memory:** 1M to 16M **CPU:** 80286 **Clock:** 6; 8; 10 MHz **Users:** 64 **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard **Graphics:** Monochrome; Color; 1,024 X 1,024 pixels **Interface(s):** 2 RS-232C; Centronics **Units sold:** 500 since 1984

☐ PC-TOWER/ET
Multiuser-multiprogramming **Memory:** 4M to 16M **CPU:** 80386 **Clock:** 20 MHz **Interface(s):** RS-232C; Parallel **Introduced:** 1986

☐ PC-TOWER/XT
Multiuser-multiprogramming **Memory:** 640K **CPU:** 8088 **Clock:** 4.77 MHz **Users:** 64 **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard **Graphics:** Monochrome; Color; 1,024 X 1,024 pixels **Interface(s):** 2 RS-232C; Centronics **Units sold:** 2,000 since 1983

☐ TSI Desktop/AT Computer
Single-user **Memory:** 640K **CPU:** 80286 **Clock:** 8 MHz **Features:** Detachable keyboard **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Units sold:** 1,200 since 1984 **Cost:** $1,295 and up

☐ TSI Desktop/XT Computer
Single-user **Memory:** 640K **CPU:** 8088 **Clock:** 4.77 MHz **Features:** Detachable keyboard **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1983 **Cost:** $695 and up

☐ TSI Workstation-AT
Single-user **Memory:** 1M to 3M **CPU:** 80286 **Clock:** 6; 8 MHz **Features:** Detachable keyboard **Graphics:** Monochrome; Color; 1,024 X 1,024 pixels **Interface(s):** RS-232C; Centronics **Units sold:** 1,000 since 1985 **Cost:** $1,495-$2,195

☐ TSI Workstation-XT
Single-user **Memory:** 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard **Graphics:** Monochrome; Color; 1,024 X 1,024 pixels **Interface(s):** RS-232C; Centronics **Units sold:** 1,500 since 1984

TRIEX TECHNOLOGY

☐ PC11 XT TURBO
Multiuser-multiprogramming **Memory:** 640K **CPU:** 8088 **Clock:** 4.77; 6.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Cost:** $1,365-$2,235

☐ Triex PC2/XT
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Cost:** $1,065-$1,935

TRIGEM COMPUTER, INC.

☐ TriGem 88
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 348 pixels **Interface(s):** RS-232C; Parallel

UNILOGIC, INC.

☐ ZEuS PC
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1983

☐ ZEuS V.I. PC
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1983 **Cost:** $6,345-$7,245

☐ ZEuS XPC
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1983

☐ ZEusMate
Single-user **Memory:** 256K to 640K **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; 720 X 348 pixels **Interface(s):** RS-232C; Parallel **Introduced:** 1985

UNITEX CO.

☐ Unitex AT
Single-user **Memory:** 512K to 1M **CPU:** 8088 **Interface(s):** RS-232C; Parallel **Introduced:** 1986

☐ Unitex PC
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $595-$995

☐ Unitex TURBO
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Interface(s):** RS-232C; Parallel **Introduced:** 1986

UNITRON COMPUTER USA, INC.

☐ U-2900ST
Single-user **Memory:** 640K **CPU:** 8088-2 **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; Parallel **Introduced:** 1986

☐ U-3600
Single-user **Memory:** 640K **CPU:** 80186 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

☐ U-3900
Single-user **Memory:** 1M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

VICTOR TECHNOLOGIES, INC.

☐ Victor VI
Single-user **Memory:** 256K to 1M **CPU:** 8088 **Clock:** 5 MHz **Display:** 25 lines X 80 or 40 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 400 X 800; 320 X 200; 640 X 200 pixels **Interface(s):** 2 RS-232C; Parallel; Centronics **Introduced:** 1985

☐ Victor VPC
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 or 40 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Color; Monochrome; 560 X 240 pixels **Introduced:** 1985 **Cost:** $1,995-$4,295

☐ Victor VPC II
Single-user **Memory:** 640K **CPU:** 8088 **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,095

WANG LABORATORIES, INC.

☐ Advanced Professional Computer
Multiuser-multiprogramming **Memory:** 512K to 2M **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Centronics **Units sold:** 7,500 since 1985 **Cost:** $3,990-$18,000

☐ Professional Computer
Single-user **Memory:** 256K to 768K **CPU:** 8086 **Clock:** 8 MHz **Display:** 25 lines X 40 or 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Mouse **Graphics:** Monochrome; Color; 800 X 300; 640 X 225; 320 X 200 pixels **Interface(s):** RS-232C; Centronics **Units sold:** 200,000 since 1982 **Cost:** $2,220-$7,265

WELLS AMERICAN

☐ A Star
Multiuser-multiprogramming **Memory:** 256K to 1M **CPU:** 80286 **Graphics:** Monochrome **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $1,495-$2,495

WESTERN COMPUTER

☐ Western AT 286 Turbo
Single-user **Memory:** 1M **CPU:** 80286 **Clock:** 6; 8 MHz **Interface(s):** 2 RS-232C; Centronics **Introduced:** 1986 **Cost:** $2,175-$2,795

☐ Western XT Turbo
Single-user **Memory:** 640K to 1M **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Interface(s):** RS-232C; Centronics **Cost:** $1,325-$1,850

WYSE TECHNOLOGY

☐ WY-1100-1, 2
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Users:** 1 **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Numeric keypad **Graphics:** Monochrome; Color; 640 or 320 X 200 pixels **Interface(s):** 2 RS-232C; Parallel **Introduced:** 1984 **Cost:** $1,264-$2,370

☐ WYSEpc Family
Single-user **Memory:** 256K-640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Adjustable screen position **Graphics:** Monochrome; Color; 640 or 320 X 200 pixels **Interface(s):** 2 RS-232C; Parallel **Introduced:** 1984 **Cost:** $1,225-$2,310

☐ WYSEpc 286 WY-2200-01, 20, 40
Multiuser-multiprogramming **Memory:** 640K **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $2,499-$4,199

XEROX CORP.

☐ 6085 Professional Computer System
Memory: 640K to 3M **CPU:** 8088 **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome **Interface(s):** RS-232C; Parallel **Introduced:** 1986

ZENITH DATA SYSTEMS
(subsidiary of Zenith Electronics Corp.)

☐ Z-148
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77; 8 MHz **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 or 320 X 200 pixels **Introduced:** 1985 **Cost:** $1,299-$1,499

☐ Z-158 PC
Single-user **Memory:** 256K to 10M **CPU:** 8088 **Clock:** 4.77; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 or 320 X 200 pixels **Introduced:** 1985 **Cost:** $1,999-$2,799

☐ Z-200 Advanced PC
Multiuser-multiprogramming **Memory:** 512K to 1.5M **CPU:** 80286 **Clock:** 6 MHz **Users:** 16 **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color **Introduced:** 1985 **Cost:** $3,499-$4,499

Z-NIX CO., INC.

☐ Z-NIX PC
Single-user **Memory:** 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 40 or 80 chars. **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 or 320 X 200 pixels **Interface(s):** RS-232C; Parallel

PORTABLE/HAND-HELD

AMERICAN MICRO TECHNOLOGY

☐ Associate
Single-user **Memory:** 512K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Weight:** 9 lbs. **Introduced:** 1986

AMERICAN MITAC CORP.

☐ VISO
Single-user **Memory:** 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 40 or 80 chars. **Features:** Function keys; Adjustable screen position **Graphics:** Color **Interface(s):** 2 RS-232C; 1 Centronics **Weight:** 9 lbs. **Introduced:** 1986

AMQ COMPUTER CORP.

☐ Amqute AT286
Single-user **Memory:** 704K **CPU:** 8088 **Graphics:** Color **Interface(s):** RS-232C; Parallel **Weight:** 27 lbs. **Introduced:** 1984 **Cost:** $4,995

APRICOT, INC.

☐ Apricot FP
Single-user **Memory:** 512K to 1M **CPU:** 8086 **Clock:** 5 MHz **Display:** 25 lines X 80 chars. (LCD) **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; Infrared mouse; Voice recognition **Graphics:** Monochrome; Color; 640 X 200 or 256 pixels **Interface(s):** RS-232C; Centronics **Weight:** 13 lbs. **Introduced:** 1984

BONDWELL, INC.

☐ Bondwell 18
Memory: 512K **CPU:** 8088 **Clock:** 4.7 MHz **Display:** 25 lines X 40 or 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Centronics **Weight:** 29 lbs. **Introduced:** 1986

☐ Bondwell 8
Single-user **Memory:** 512K **CPU:** 80C88 **Graphics:** Monochrome **Interface(s):** RS-232C; Centronics **Weight:** 10 lbs. **Introduced:** 1986

CANON U.S.A., INC.

☐ A-200 Transportable
Single-user **Memory:** 512K to 640K **CPU:** 80C88 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** RS-232C; Centronics **Weight:** 19 lbs. **Introduced:** 1985 **Cost:** $2,295

COMPAQ COMPUTER CORP.

☐ COMPAQ PLUS
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 320/640 X 200 pixels **Interface(s):** Parallel; RS-232C; RS-449/422 **Weight:** 31.6 lbs. **Introduced:** 1983

☐ COMPAQ Portable Computer
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Numeric keypad; Function keys; Direct cursor addressing; Non-glare screen **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel; RS-449/422 **Weight:** 31.3 lbs. **Introduced:** 1982

☐ COMPAQ Portable II PC Model 1
Single-user **Memory:** 256K to 640K **CPU:** 80286 **Clock:** 6; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 640 X 200 pixels **Interface(s):** Parallel **Weight:** 23.6 lbs. **Introduced:** 1986

☐ COMPAQ Portable II PC Model 2
Single-user **Memory:** 256K to 640K **CPU:** 80286 **Clock:** 6; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 640 X 200 pixels **Interface(s):** Parallel **Weight:** 25.6 lbs. **Introduced:** 1986

☐ COMPAQ Portable II PC Model 3
Reviewed Jun 1986 p. 31.
Single-user **Memory:** 256K to 640K **CPU:** 80286 **Clock:** 6; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 640 X 200 pixels **Interface(s):** Parallel **Weight:** 23.6 lbs. **Introduced:** 1986

☐ COMPAQ Portable 286 Model 1
Multiuser-multiprogramming **Memory:** 256K to 2.7M **CPU:** 80286 **Clock:** 6; 8 MHz **Display:** 25 lines X 80 chars **Features:** Numeric keypad; Function keys; Direct cursor addressing; Non-glare screen **Graphics:** Monochrome; Color **Interface(s):** Parallel **Weight:** 30.5 lbs. **Introduced:** 1985

☐ COMPAQ Portable 286 Model 2
Multiuser-multiprogramming **Memory:** 256K to 2.7M **CPU:** 80286 **Clock:** 6; 8 MHz **Display:** 25 lines X 80 chars. **Features:** Numeric keypad; Function keys; Direct cursor addressing; Non-glare screen **Graphics:** Monochrome; Color **Interface(s):** Parallel **Weight:** 33 lbs. **Introduced:** 1985

CORDATA

☐ AT Portable Q
Single-user **Memory:** 512K **CPU:** 80286 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; 640 X 400 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1985

☐ AT Portable Q20
Single-user **Memory:** 512K **CPU:** 80286 **Graphics:** Monochrome **Interface(s):** RS-232C; Parallel **Introduced:** 1985

☐ Portable PC 400
Single-user **Memory:** 512K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; 640 x 400 pixels **Interface(s):** 1 RS-232C; 1 Centronics **Introduced:** 1984

☐ Portable PC 400 Model 205
Single-user **Memory:** 512K **CPU:** 8088 **Graphics:** Monochrome **Interface(s):** RS-232C; Centronics **Weight:** 38 lbs. **Introduced:** 1984

☐ Portable PC-XT
Single-user **Memory:** 256K to 512K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; 640 X 400 pixels **Interface(s):** RS-232C; Centronics **Introduced:** 1984

CORVUS OEM GROUP

☐ OTI-3
Multiuser-multiprogramming **Memory:** 640K to 1M **CPU:** 80286 **Clock:** 8 MHz **Weight:** 33 lbs. **Introduced:** 1985 **Cost:** $1,895-$3,495

DATA GENERAL CORP.

☐ Data General One
Single-user **Memory:** 128K to 512K **CPU:** 80C88 **Clock:** 4 MHz **Display:** 25 lines X 80 chars. (LCD) **Features:** Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 256 pixels **Interface(s):** RS-232C; RS-449/422 **Weight:** 12 lbs. **Introduced:** 1984

☐ Data General One Model 2
Single-user **Memory:** 256K to 640K **CPU:** 80C88 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel; RS-422 **Weight:** 10.5; 11.5 lbs. **Cost:** $1,795 (LCD screen); $2,795 (EL screen)

DATAVUE

☐ Datavue 25
Single-user **Memory:** 128K to 640K **CPU:** 80C88 **Graphics:** Monochrome **Interface(s):** RS-232C; Centronics **Weight:** 12.1 lbs. **Introduced:** 1984 **Cost:** $1,695-$3,495

DELTA DATA SYSTEMS CORP.

Service Division

☐ Tote PC Tempest
Single-user **Memory:** 128K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 640 X 200 pixels **Interface(s):** RS-232C; Parallel; RS-422; Mil Std. 188-C; Mil Std. 188-144 **Weight:** 38 lbs. **Introduced:** 1985

ENGEBRETSEN ENGINEERING

☐ PC-3
Single-user **Memory:** 64K to 256K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** 2 RS-232C; Parallel

GOLDEN STAR TECHNOLOGY, INC.

☐ G.S.T. PC/XT
Single-user **Memory:** 640K **CPU:** 8088 **Interface(s):** RS-232C; Parallel **Introduced:** 1986

GRID SYSTEM CORP.

☐ Grid Case 1
Single-user **Memory:** 128K to 512K **CPU:** 80C86 **Clock:** 5 MHz **Display:** 25 lines X 80 chars. (LCD) **Features:** Function keys **Graphics:** Monochrome **Interface(s):** RS-232C; Centronics; RS-422; PC-10 Bus **Weight:** 12 lbs. **Introduced:** 1985 **Cost:** $2,975

☐ Grid Case 2
Single-user **Memory:** 128K to 512K **CPU:** 8086 **Clock:** 5 MHz **Display:** 25 lines X 80 chars. (LCD) **Features:** Function keys **Graphics:** Monochrome **Interface(s):** RS-232C; Centronics; PC-10 Bus **Weight:** 12 lbs. **Cost:** $3,150

☐ Grid Case 3
Single-user **Memory:** 128K to 512K **CPU:** 8086 **Clock:** 5 MHz **Display:** 25 lines X 80 chars. plasma **Graphics:** Monochrome **Interface(s):** RS-232C; Centronics; RS-422; PC-10 Bus **Weight:** 12 lbs. **Introduced:** 1985 **Cost:** $4,350

HEWLETT-PACKARD CO.

☐ HP 110, The Portable
Single-user **Memory:** 272K **CPU:** 80C86 **Clock:** 5.3 MHz **Display:** 16 lines X 80 chars. **Features:** Function keys **Graphics:** Monochrome; 128 X 480 pixels **Interface(s):** RS-232C; HPIL **Weight:** 8.7 lbs. **Introduced:** 1984

☐ HP 94
Single-user **Memory:** 64K to 256K **CPU:** 80C88 **Interface(s):** RS-232C **Introduced:** 1986

☐ Portable PLUS
Memory: 256K to 1M **CPU:** 80C86 **Clock:** 5.33 MHz **Display:** 25 lines x 80 chars. (LCD) **Features:** Non-glare screen; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 200 X 480 pixels **Interface(s):** RS-232C; HPIL, HPIB **Weight:** 9 lbs. **Introduced:** 1985 **Cost:** $2,695-$3,880

I.Q. COMPUTER CORP.

☐ IQ 9242C
Single-user **Memory:** 640K **CPU:** 80186 **Interface(s):** RS-232C; Centronics **Weight:** 15 lbs. **Introduced:** 1985

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ PC Convertible
Single-user **Memory:** 128K to 512K **CPU:** 80C88 **Clock:** 4.77 MHz **Display:** 25 lines X 80 or 40 chars. **Features:** Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 or 320 X 200 pixels **Interface(s):** RS-232C; Parallel **Weight:** 12.2 lbs. **Introduced:** 1986

☐ Portable PC 5155 Model 68
Single-user **Memory:** 256K to 512K **CPU:** 8088 **Display:** 25 lines X 80 chars. **Graphics:** Monochrome; Color **Weight:** 30 lbs. **Introduced:** 1984 **Cost:** $2,595

INTERNATIONAL SYSTEMS MARKETING, INC. (ISM)

☐ ISM Express PC
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Graphics:** Color **Interface(s):** RS-232C; Parallel **Weight:** 35 lbs. **Introduced:** 1985

☐ ISM Express XT
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Graphics:** Color **Interface(s):** RS-232C; Parallel **Weight:** 35 lbs. **Introduced:** 1985 **Cost:** $3,995-$4,995

☐ ISM Express 286
Single-user **Memory:** 512K to 1M **CPU:** 80286 **Interface(s):** RS-232C; Parallel **Weight:** 35 lbs. **Introduced:** 1986

☐ ISM Express 286 Plus
Single-user **Memory:** 512K to 1M **CPU:** 80286 **Graphics:** Color **Interface(s):** RS-232C; Parallel **Weight:** 35 lbs. **Introduced:** 1986

JONOS INTERNATIONAL, INC.

☐ I4100
Single-user; Foreground-background **Memory:** 256K **CPU:** 8088 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome **Interface(s):** 2 RS-232C; Parallel; STDBUS **Weight:** 7.25 lbs. **Introduced:** 1984 **Cost:** $3,695

☐ I4300
Single-user; Foreground-background **Memory:** 256K **CPU:** 8088 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome **Interface(s):** 2 RS-232C; Parallel; STDBUS **Introduced:** 1984 **Cost:** $3,895

☐ I4500
Single-user; Foreground-background **Memory:** 256K **CPU:** 8088 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome **Interface(s):** 2 RS-232C; Parallel; STDBUS **Introduced:** 1984 **Cost:** $5,995

☐ I4550
Single-user; Foreground-background **Memory:** 256K **CPU:** 8088 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome **Interface(s):** 2 RS-232C; Parallel; STDBUS **Introduced:** 1984 **Cost:** $6,295

☐ I4700
Single-user; Foreground-background **Memory:** 256K **CPU:** 8088 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome **Interface(s):** 2 RS-232C; Parallel; STDBUS **Introduced:** 1984 **Cost:** $5,695

☐ I4750
Single-user; Foreground-background **Memory:** 256K **CPU:** 8088 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome **Interface(s):** 2 RS-232C; Parallel; STDBUS **Introduced:** 1984 **Cost:** $5,995

KAYPRO CORP.

☐ Kaypro 16
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 40 or 80 chars. **Features:** Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Weight:** 35 lbs. **Introduced:** 1984

☐ Kaypro 2000
Single-user **Memory:** 256K to 760K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. (LCD) **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing; 640 X 200 pixels **Interface(s):** RS-232C **Weight:** 11.5 lbs. **Introduced:** 1985

MELARD TECHNOLOGIES, INC.

☐ ACCESS
Single-user **Memory:** 56K to 120K **Display:** 8 lines X 40 chars. **Features:** Function keys; Direct cursor addressing **Graphics:** Monochrome; 64 X 240 pixels **Interface(s):** RS-232C **Cost:** $499-$995

NATIONAL DATACOMPUTER

☐ Datacomputer
Single-user **Memory:** 64K to 256K **CPU:** 8088 **Interface(s):** RS-232C **Weight:** 2.5 lbs. **Introduced:** 1985 **Cost:** $1,795-$2,995

OMNI-SERVE, INC.

☐ Chameleon
Single-user **Memory:** 128K to 640K **CPU:** Z80A; 8088 **Clock:** 2.5; 5 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; (color) 320 X 200 pixels **Interface(s):** 2 RS-232C; Parallel **Weight:** 28 lbs. **Introduced:** 1982 **Cost:** $1,695

☐ Chameleon Plus
Single-user **Memory:** 256K to 640K **CPU:** Z80A; 8088 **Clock:** 2.5; 5 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; (color) 320 X 200 pixels **Interface(s):** 2 RS-232C; Parallel **Weight:** 28 lbs. **Introduced:** 1983 **Cost:** $2,195

POLYMATHIC COMPUTER CORP.

☐ Polymathic Portable Computer
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986

ROCKY MOUNTAIN TRADING CO.
Systems Division

☐ Portable Powerhouse
Single-user **Memory:** 128K to 704K **CPU:** 8088; 8088-2 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Adjustable screen position; Non-glare screen; Numeric keypad; Function keys; Direct cursor addressing; Detachable keyboard **Graphics:** Monochrome; 640 X 400 or 200 pixels **Interface(s):** RS-232C; 1 Centronics **Units sold:** 8 since 1984 **Cost:** $2,995-$10,000

SANYO BUSINESS SYSTEMS CORP.
(Computer Division)

☐ MBC-675
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** Centronics; RS-232C **Units sold:** 7,000 since 1985

☐ MBC-675/HD-20
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** RS-232C; Centronics **Weight:** 25 lbs. **Introduced:** 1985

☐ MBC-775-e
Single-user **Memory:** 256K to 640K **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Display:** 25 lines X 40 or 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Color; 640 X 200 pixels **Interface(s):** Centronics **Units sold:** 5,000 since 1985

☐ MBC-775/HD-20
Single-user **Memory:** 256K to 640K **CPU:** 8088-2 **Clock:** 4.77; 8 MHz **Display:** 25 lines X 80 chars. **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** Centronics **Weight:** 35 lbs. **Introduced:** 1985

SHARP ELECTRONICS CORP.
Systems Division

☐ PC-5000
Single-user **Memory:** 128K to 320K **CPU:** 8088 **Clock:** 4 MHz **Display:** 8 lines X 80 chars. (LCD) **Features:** Adjustable screen position; Function keys **Graphics:** Monochrome; 640 X 80 pixels **Interface(s):** RS-232C **Introduced:** 1983

☐ PC-7000
Single-user **Memory:** 320K to 704K **CPU:** 8086 **Clock:** 7.37; 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard **Graphics:** Monochrome; Color; 640 X 200; 320 X 200 (color) pixels **Interface(s):** RS-232C; Centronics **Weight:** 18.8 lbs. **Introduced:** 1985 **Cost:** $1,795

STM ELECTRONICS CORP.

☐ Pied Piper I
Single-user **Memory:** 64K **CPU:** Z80A **Clock:** 4 MHz **Display:** 24 lines X 80 chars. (monitor); 24 lines X 40 chars. (TV) **Graphics:** Monochrome **Interface(s):** Parallel; STDBUS **Weight:** 12.5 lbs. **Introduced:** 1982 **Cost:** $799

☐ STM PC
Single-user **Memory:** 256K to 512K **CPU:** 80186 **Clock:** 8 MHz **Display:** 25 lines X 80 chars. (LCD) **Features:** Detachable keyboard; Numeric keypad; Function keys **Graphics:** Monochrome; Color; 640 X 200 pixels (LCD) or 720 X 350 pixels **Interface(s):** 2 RS-232C; Centronics **Weight:** 17 lbs. **Introduced:** 1984

TALBOTT DEVELOPMENT CORP.

☐ Portable AT
Single-user **Memory:** 640K **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $640

☐ Portable XT
Single-user **Memory:** 640K **CPU:** 8088 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Introduced:** 1986 **Cost:** $640

TANDY/RADIO SHACK

☐ Tandy 600 (26-3901)
Single-user **Memory:** 32K to 224K **CPU:** 80C88 **Clock:** 3.07 MHz **Display:** 16 lines X 80 chars. **Graphics:** Monochrome; 240 X 128 pixels **Interface(s):** RS-232C; Parallel **Weight:** 11 lbs. **Introduced:** 1985

TAVA U.S.A., INC.

☐ TAVA Gold Series Transportable Executive
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.75 MHz **Display:** 25 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 720 X 350; 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Weight:** 8 lbs.

☐ TAVA Triumph LT
Single-user **Memory:** 256K to 640K **CPU:** 80186 **Clock:** 4.75 MHz **Display:** 25 lines X 80 chars. (LCD) **Features:** Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Weight:** 15 lbs. **Units sold:** 5,000 since 1985

TELEVIDEO SYSTEMS, INC.

☐ TPC II
Single-user **Memory:** 256K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 24 lines X 80 chars. **Features:** Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Color; Monochrome; 320 or 640 X 200 pixels **Interface(s):** RS-232C; Centronics **Weight:** 28 lbs. **Introduced:** 1984 **Cost:** $2,095 (1 drive); $2,395 (2 drives)

☐ TPC IIS; TPC IID
Memory: 256K **CPU:** 8088 **Clock:** 5 MHz **Features:** Adjustable screen position; Non-glare screen; Detachable keyboard; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200; 300 X 200 pixels **Interface(s):** RS-232C; Parallel **Cost:** $2,095-$2,395

TOSHIBA AMERICA, INC.
Information Systems Division

☐ T1100
Single-user **Memory:** 512K to 720K **CPU:** 8088 **Display:** 25 lines X 80 chars. **Features:** Non-glare screen; Numeric keypad; Function keys; Direct cursor addressing **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** Parallel **Weight:** 9 lbs. **Cost:** $1,999

☐ T1100 Plus
Single-user **Memory:** 256K to 640K **CPU:** 80C88 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Weight:** 9.15 lbs. **Introduced:** 1986 **Cost:** $1,999-$2,399

☐ T3100
Single-user **Memory:** 640K **CPU:** 80286 **Graphics:** Monochrome; Color **Interface(s):** RS-232C; Parallel **Weight:** 15 lbs. **Introduced:** 1986

TOWER SYSTEMS INDUSTRIES (T.S.I.)

☐ TSI Portable Computer (XT/AT compatible)
Single-user **Memory:** 1M **CPU:** 8088; 80286 **Clock:** 4.77; 8 MHz **Features:** Detachable keyboard **Interface(s):** RS-232C; Parallel **Weight:** 29 lbs. **Introduced:** 1985 **Cost:** $895 and up

ZENITH DATA SYSTEMS
(subsidiary of Zenith Electronics Corp.)

☐ Z-171 PC
Single-user **Memory:** 256K to 640K **CPU:** 8088 **Clock:** 4.77 MHz **Display:** 25 lines X 80 chars. **Features:** Function keys; Direct cursor addressing; LCD screen **Graphics:** Monochrome; Color; 640 X 200 pixels **Interface(s):** RS-232C; Parallel **Weight:** 14.3 lbs. **Introduced:** 1985 **Cost:** $2,399

GRAPHICS EQUIPMENT

DIGITIZERS

ALTEK CORP.

☐ AC 30 DATATAB Controller
Input: Tablet **Resolution:** 0.001 inches **Accuracy:** (±)0.005; 0.001; 0.01 inch **Repeatability:** 0.001 inch **Support equip:** Cables **Units sold:** 300 since 1984 **Cost:** $450

☐ AC 35 PC DATATAB Controller
Input: Tablet **Resolution:** 0.001 inches **Accuracy:** (±)0.005; 0.003; 0.010 inch **Repeatability:** 0.001 inch **Support equip:** Cables; Software **Introduced:** 1986

☐ AC 40 DATATAB Controller
Input: Tablet **Includes:** Digitizer **Resolution:** 0.001 inch **Accuracy:** 0.005; 0.003; 0.01 inch **Repeatability:** 0.001 inch **Firmware avail.:** Scaling; Translation; Rotation; Length and area calculations **Support equip:** Cables **Units sold:** 150 since 1984 **Cost:** $900 and up

☐ DATATAB Table/Tablet
Technology: Electromagnetic **Input:** Cursor **Resolution:** 0.001 inch **Accuracy:** 0.003; 0.005; 0.01 inch **Repeatability:** 0.001 inch **Support equip:** Cables; Software **Units sold:** 3,000 since 1978 **Cost:** $1,300 and up

☐ 60" X 90" Digitizer; 42" X 130" Digitizer
Resolution: 0.001 inches **Accuracy:** (±)0.005; (±)0.01 inch **Repeatability:** 0.001 inch **Support equip:** Cables

CALCOMP
(subsidiary of Sanders Associates, Inc.)

☐ Model 9100
Technology: Tablet or table; Electromagnetic **Input:** Cursor; Stylus **Resolution:** 1,000 lines/inch **Accuracy:** (±) 0.005 inch **Software supported:** CAD/CAM applications **Units sold:** 1,500 since 1984 **Cost:** $3,000-$10,000

☐ 2000 Series
Technology: Electromagnetic **Input:** Cursor; Stylus **Resolution:** 200 lines/inch **Accuracy:** (±) 0.025 inch **Software supported:** Business applications; CAD/CAM applications **Units sold:** 30,000 since 1982 **Cost:** $726

☐ 2200 Series
Technology: Electromagnetic **Input:** Cursor; Stylus **Software supported:** Business applications; CAD/CAM applications **Introduced:** 1986 **Cost:** $695-$1,100

☐ 2500 Series
Technology: Electromagnetic **Input:** Cursor; Stylus **Resolution:** 200 to 1,000 lines/inch **Accuracy:** (±)0.025 inch **Software supported:** Business applications; CAD/CAM applications **Introduced:** 1985 **Cost:** $1,000-$1,375

CHORUS DATA SYSTEMS

☐ CA-1600
Technology: Camera **Input:** Camera **Color:** supported **Support equip:** Software **Software supported:** Video production applications **Cost:** $1,495

☐ PC-EYE Series 1000
Technology: Raster display **Input:** Camera; VCR **Resolution:** 640 X 512 matrix **Color:** supported **Maximum colors:** 16.8M in palette; 256 displayable **Support equip:** Software **Software supported:** High-level languages; Operating system; Scientific or medical applications; CAD/CAM applications; Graphic arts; Communications; Data base management applications **Units sold:** 1,500 since 1984 **Cost:** $495

☐ PC-EYE Series 1500 Video Frame Grabbers
Technology: Video **Input:** Video **Resolution:** 256 X 256; 768 or 640 X 512 **Color:** supported **Introduced:** 1986 **Cost:** $1,295-$2,495

COLORADO VIDEO, INC.

☐ 270A Video Digitizer
Input: Keyboard **Resolution:** 512 X 512 **Introduced:** 1977 **Cost:** $4,500

☐ 491 Video Frame Store
Input: Keyboard; Button device **Resolution:** 512 X 512 **Support equip:** Interface card **Introduced:** 1984 **Cost:** $5,000-$7,000

COMPOSITION TECHNOLOGY INTERNATIONAL (CTI)

☐ PageScan 200
Technology: Flatbed; Raster display; Camera **Input:** Keyboard; Mouse **Resolution:** 200 dots/inch **Support equip:** Cables; Software; Controller card **Software supported:** Typesetting applications **Units sold:** 200 since 1984 **Cost:** $3,995

☐ PageScan 300
Technology: Flatbed; Raster display; Camera **Input:** Keyboard; Mouse **Resolution:** 300 dots/inch **Support equip:** Cables; Software; Controller card **Software supported:** Typesetting applications **Units sold:** 200 since 1984 **Cost:** $4,995

COMPUTER TALK, INC.

☐ 600 Cursor Digitizer
Technology: Tablet or table; 12 X 18 to 63 X 86 inches **Input:** Cursor **Includes:** Plotter or hard copy device **Resolution:** 0.0025 to 0.001 inch **Accuracy:** 0.01-0.005 inch **Repeatability:** (±) 0.005 inch **Software supported:** High-level languages; Scientific or medical applications; CAD/CAM applications; Engineering applications **Units sold:** 47 since 1980 **Cost:** $2,594-$16,000

DATACOPY CORP.

☐ Model 620/620F
Technology: CCD Camera **Resolution:** 3,456 X 4,472 pixels **Accuracy:** (±) 0.0005 inch **Color:** supported **Capability:** 3D **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications; Word Image Processing System **Introduced:** 1985 **Cost:** $11,950-$13,950

☐ 322 Electronic Digitizing Camera
Technology: Camera **Resolution:** 1,720 X 2,592 X 256 **Color:** supported **Capability:** 3D **Introduced:** 1982 **Cost:** $7,850

☐ 610 Electronic Digitizing Camera
Technology: Camera **Resolution:** 1,728 X 2,846 pixels **Color:** supported **Capability:** 3D **Software supported:** CAD/CAM applications; Word Image Processing System **Units sold:** 150 since 1983 **Cost:** $7,850

ECRM

☐ Autokon 1000
Technology: Laser scanner **Input:** Control panel **Resolution:** 1,016 to 2,032 lines/inch **Accuracy:** (±) 0.01 inch **Units sold:** 200 since 1984 **Cost:** $50,000

EIKONIX CORP.
(a Kodak Co.)

☐ E-Z SCAN Model 4434
Technology: Flatbed **Input:** Keyboard; Tablet; Camera **Resolution:** 110 lines/inch **Accuracy:** (±) 0.00001 inch **Color:** supported **Support equip:** Cables; Software **Software supported:** Operating system **Introduced:** 1985 **Cost:** $35,000

☐ Series 78/99
Technology: Flatbed **Input:** Keyboard; Tablet; Camera **Resolution:** 50-1,694 lines/inch **Accuracy:** (±) 0.00001 inch **Color:** supported **Maximum colors:** Up to 16M in palette **Support equip:** Cables; Software **Software supported:** Operating system **Introduced:** 1982 **Cost:** $18,500

☐ Series 785
Technology: Flatbed **Input:** Keyboard; Tablet; Camera **Resolution:** 409-8,192 lines/inch **Accuracy:** (±) 0.00001 inch **Color:** supported **Maximum colors:** Up to 16M in palette **Software supported:** Operating system **Introduced:** 1981 **Cost:** $89,500

☐ Series 850
Technology: Flatbed **Input:** Keyboard; Tablet; Camera **Resolution:** 50-3,600 lines/inch **Accuracy:** (±) 0.00001 inch **Color:** supported **Maximum colors:** Up to 16M in palette **Support equip:** Cables; Software **Software supported:** Operating system **Introduced:** 1984 **Cost:** $18,500

ELECTRONIC INFORMATION TECHNOLOGY, INC.

☐ PS 2000
Input: Keyboard **Resolution:** 300 dots/inch **Color:** supported **Introduced:** 1986 **Cost:** $2,495

ELOGRAPHICS

☐ E230
Technology: Tablet or table **Accuracy:** 0.08-0.18 inch **Introduced:** 1972 **Cost:** $600

GENTIAN ELECTRONICS, LTD.

☐ Hi-State
Technology: Tablet or table **Input:** Keyboard; Cursor **Resolution:** 0.0008 inch **Accuracy:** (±) 0.003; 0.005; 0.01 inch **Repeatability:** (±) 0.001 inch **Firmware avail.:** Area; Volume and length calculations; Document de-skewing; Coordinate transformation applications **Support equip:** Cables **Software supported:** High-level languages; Operating system; Business applications; Scientific or medical applications; CAD/CAM applications **Units sold:** 270 since 1979 **Cost:** $3,155; Lease (mo.) —$315

GEOGRAPHICS

☐ Clamp-On Drafting Board Digitizer
Technology: Tablet or table **Input:** Keyboard; Cursor; Footswitch; Puck **Resolution:** 100; 200; 400; 800 lines/inch **Support equip:** Cables; Software **Software supported:** High-level languages; Operating system; Business applications; Scientific or medical applications; CAD/CAM applications; Engineering and mapping applications **Introduced:** 1985 **Cost:** $3,000

GTCO CORP.

☐ Digi-Pad A Series
Technology: Tablet or table; Electromagnetic scanning; 11 X 11 to 42 X 60 inches **Input:** Cursor; Stylus; Pressure pen **Resolution:** 0.001 **Accuracy:** (±) 0.005; 0.003 inch **Repeatability:** (±) 0.0005 inch **Software supported:** High-level languages; CAD/CAM applications; Mapping; Image analysis applications

☐ Graphic Analysis Package 1
Input: Cursor; Stylus **Resolution:** 0.001 inch **Introduced:** 1982

☐ Micro Digi-Pad
Technology: Tablet or table; Electromagnetic scanning; 6 X 6 and 12 X 12 inches **Input:** Cursor; Stylus **Resolution:** 0.005 inch **Repeatability:** 0.0025 inch **Introduced:** 1983

HITACHI AMERICA, LTD.
DGPP Division

☐ DIGITIGER
Input: Cursor; Stylus **Resolution:** 0.001 inch **Accuracy:** (±) 0.005 inch

☐ HICOMSCAN Line
Technology: Tablet or table; Electromagnetic inductive **Input:** Cursor; Stylus **Includes:** Plotter or hard copy device **Resolution:** 1,000 lines/inch **Accuracy:** (±) 0.005 inch **Units sold:** 1,500 since 1981 **Cost:** $700-$8,500

☐ Tiger Tablet HDG-1111
Technology: Tablet or table; 11 X 11 inches; Electromagnetic inductive **Input:** Cursor; Stylus **Includes:** Plotter or hard copy device **Resolution:** 0.001 inch **Accuracy:** (±) 0.01 inch

☐ Tiger Tablet II
Technology: Tablet or table **Input:** Cursor; Stylus **Resolution:** 0.001 inch **Accuracy:** (±) 0.01 inch **Repeatability:** (±) 0.0015 inch **Introduced:** 1984

HOUSTON INSTRUMENT
(division of AMETEK, Inc.)

☐ HIPAD DT-11; DT-114
Technology: Tablet or table; Electromagnetic **Input:** Button device; Cursor; Stylus **Resolution:** 0.005 inch or 0.01 inch (selectable) **Accuracy:** (±) 0.015 inch **Steps/inch:** 200 **Software supported:** CAD/CAM applications **Introduced:** 1979 **Cost:** $840-$920

☐ Series 7000
Technology: Tablet or table; Electromagnetic **Input:** Cursor; Stylus **Resolution:** 0.001 inch **Accuracy:** (±) 0.005 inch **Repeatability:** (±) 0.001 inch **Steps/inch:** 1,000 **Software supported:** CAD/CAM applications **Introduced:** 1981 **Cost:** $3,800-$6,750

☐ True Grid 1005
Technology: Electromagnetic **Input:** Button device; Cursor; Stylus **Resolution:** 0.005 inches **Accuracy:** (±) 0.015 inch **Steps/inch:** 200 **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications **Introduced:** 1985 **Cost:** $385

☐ True Grid 1011
Technology: Electromagnetic **Input:** Button device; Cursor; Stylus **Resolution:** 0.005 inches **Accuracy:** (±) 0.015 inch **Steps/inch:** 200 **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications **Introduced:** 1985 **Cost:** $685

☐ True Grid 8011
Technology: Electromagnetic **Input:** Button device; Cursor **Resolution:** 0.001 inches **Accuracy:** (±) 0.01 inch **Steps/inch:** 1,000 **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications **Introduced:** 1985 **Cost:** $850

☐ True Grid 8017
Technology: Electromagnetic **Input:** Button device; Cursor **Resolution:** 0.001 inches **Accuracy:** (±) 0.01 inch **Steps/inch:** 1,000 **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications **Introduced:** 1985 **Cost:** $1,695

☐ True Grid 8024
Technology: Electromagnetic **Input:** Button device; Cursor **Resolution:** 0.001 inches **Accuracy:** (±) 0.01 inch **Steps/inch:** 1,000 **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications **Introduced:** 1985 **Cost:** $2,995

☐ True Grid 8036
Technology: Electromagnetic **Input:** Button device; Cursor **Resolution:** 0.001 inches **Accuracy:** (±) 0.01 inch **Steps/inch:** 1,000 **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications **Introduced:** 1985 **Cost:** $3,995

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ 3117 Scanner
Technology: Flatbed **Input:** Keyboard **Resolution:** 240 dots/inch **Introduced:** 1986 **Cost:** $1,095

☐ 3118 Scanner
Technology: Flatbed **Input:** Keyboard **Resolution:** 240 dots/inch **Introduced:** 1986 **Cost:** $2,350

INDUSTRIAL VISION SYSTEMS

☐ E/SCAN Model ES150
Technology: Raster display **Input:** Camera **Resolution:** 150 dots per inch **Software supported:** CAD/CAM applications **Introduced:** 1985 **Cost:** $40,000

☐ E/SCAN Model ES200
Technology: Raster display **Input:** Camera **Resolution:** 200 dots per inch **Software supported:** CAD/CAM applications **Units sold:** 15 since 1985 **Cost:** $50,000

☐ E/SCAN Model ES400
Technology: Raster display **Input:** Camera **Resolution:** 400 dots per inch **Software supported:** CAD/CAM applications **Introduced:** 1985 **Cost:** $68,000

INTERFACE ELECTRONICS, INC. (MI)

☐ DATATRAK DIGITIZER
Technology: Tablet or table **Input:** Keyboard; Cursor **Resolution:** 0.001 inch **Accuracy:** (±) 0.005 inch **Repeatability:** (±) 0.001 inch **Support equip:** Cables **Software supported:** High-level languages **Units sold:** 85 since 1975 **Cost:** $3,500-$5,555

JANDEL SCIENTIFIC

☐ Digital Paintbrush System
Technology: Electromagnetic **Input:** Tablet; Light pen; Puck; Stylus **Resolution:** 0.001 inches **Accuracy:** (±)0.3; 0.01 inch **Software supported:** Scientific or medical applications **Introduced:** 1984 **Cost:** $495-$1,195

KURTA CORP.

☐ Series I
Input: Cursor; Pen/stylus **Resolution:** 200 points/inch **Accuracy:** (±) 0.035 inch **Repeatability:** (±) 0.005 inch **Color:** supported **Support equip:** Cables; Driver **Software supported:** High-level languages; Operating system; Business applications; Scientific or medical applications; CAD/CAM applications **Introduced:** 1983 **Cost:** $545-$895

☐ Series II-1000
Input: Cursor; Pen/stylus **Resolution:** 1,000 points/inch **Accuracy:** 0.025 inch **Repeatability:** (±) 0.005 inch **Support equip:** Cables; Driver **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications **Introduced:** 1983 **Cost:** $895-$1,095

☐ Series II-400
Input: Cursor; Pen/stylus **Resolution:** 400 points/inch **Accuracy:** 0.025 inch **Repeatability:** (±) 0.005 inch **Support equip:** Cables; Driver **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications **Introduced:** 1983 **Cost:** $835-$960

☐ Series III
Input: Cursor; Stylus **Resolution:** 1,000 points/inch **Accuracy:** 0.01 inch **Repeatability:** (±) 0.001 inch **Support equip:** Cables **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications **Introduced:** 1983 **Cost:** $3,530-$6,500

LODGE ELECTRONICS

☐ Image Ace II
Technology: Camera; Video **Input:** Keyboard **Resolution:** 320 X 200 **Introduced:** 1986 **Cost:** $295

MICRO CONTROL SYSTEMS

☐ Perceptor
Technology: Tablet or table **Input:** Robotic arm **Resolution:** 0.0072-0.01 inch **Accuracy:** (±) 0.007-0.02 inch **Capability:** 3D **Software supported:** CAD/CAM applications; Field mapping; Molecular; Modeling; Robotics applications **Units sold:** 100 since 1984 **Cost:** $9,500

☐ Space Tablet
Technology: Tablet or table **Input:** Robotic arm **Resolution:** 0.04 inch **Accuracy:** (±) 0.03 inch **Color:** supported **Capability:** 3D **Software supported:** Operating system; Scientific or medical applications; CAD/CAM applications **Units sold:** 1,200 since 1982 **Cost:** $995-$2,495 (with software)

THE MICRO WORKS, INC.

☐ DS-88 Digisector
Input: Standard video signal **Resolution:** 256 X 256 matrix **Support equip:** Software **Introduced:** 1984 **Cost:** $350

NEW IMAGE TECHNOLOGY, INC.

☐ MAGIC
Technology: Camera **Input:** Mouse **Includes:** Digitizer **Resolution:** 512 X 342 **Color:** supported **Units sold:** 2,500 since 1984 **Cost:** $399-$549

NUMONICS

☐ Model 1210
Technology: Tablet or table; 24 X 24 inches **Input:** Keyboard; Restrained cursor **Resolution:** 0.005 to 0.01 inch **Accuracy:** (±) 0.005 inch **Firmware avail.:** Average end area volume; Area justification **Software supported:** Operating system; Scientific or medical applications; Geologic; Construction applications **Units sold:** 203 since 1979 **Cost:** $1,750

☐ Model 1211H
Technology: Tablet or table; 24 X 24 inches **Input:** Keyboard; Restrained cursor **Resolution:** 0.005 inch **Accuracy:** (±) 0.005 inch **Software supported:** Operating system; Scientific or medical applications; Agriculture; Tax mapping applications **Units sold:** 3,537 since 1979 **Cost:** $3,500

☐ Model 1220
Technology: Tablet or table; 24 X 24 inches **Input:** Keyboard; Restrained cursor **Resolution:** 0.005 to 0.01 inch **Accuracy:** (±) 0.005 inch **Firmware avail.:** Scaling **Software supported:** Operating system; Scientific or medical applications **Units sold:** 170 since 1979 **Cost:** $2,500

☐ Model 1224
Technology: Tablet or table; 24 X 24 inches **Input:** Keyboard; Restrained cursor **Resolution:** 0.005 to 0.01 inch **Accuracy:** (±) 0.005 inch **Firmware avail.:** Simultaneous area and length; Average end area volume; Area justification **Software supported:** Operating system; Scientific or medical applications; Geologic; Construction; Tax mapping; Agriculture applications **Units sold:** 1,345 since 1976 **Cost:** $3,950

☐ Model 1240
Technology: Tablet or table; 24 X 24 inches **Input:** Keyboard; Restrained cursor **Resolution:** 0.01 inch **Accuracy:** (±) 0.005 inch **Software supported:** Operating system; Scientific or medical applications **Units sold:** 74 since 1979 **Cost:** $1,750

☐ Model 1250
Technology: Tablet or table; 24 X 24 inches **Input:** Keyboard; Restrained cursor **Resolution:** 0.005 to 0.01 inch **Accuracy:** (±) 0.005 inch **Firmware avail.:** Simultaneous area and length; Average end area volume; Area justification **Software supported:** High-level languages; Scientific or medical applications; Geologic; Construction applications **Units sold:** 539 since 1979 **Cost:** $2,250

☐ Model 2200
Technology: Tablet or table; 6 X 6 to 36 X 48 inches **Input:** Stylus; 1, 4, or 16 button cursor **Resolution:** 0.001 inch (switch selectable) **Accuracy:** (±) 0.01 inch **Firmware avail.:** Scaling; Axis rotation **Units sold:** 3,418 since 1983 **Cost:** $775-$4,260

☐ Model 2300
Technology: Tablet or table; 11 X 11 or 42 X 60 inches **Input:** Keyboard; Cursor **Resolution:** 1,000 lines/inch **Accuracy:** (±) 0.005 inch **Repeatability:** (±) 0.005 inch **Software supported:** Operating system **Units sold:** 622 since 1981 **Cost:** $2,250-$6,-025

☐ Model 2400
Technology: Tablet or table; 11 X 11 or 42 X 60 inches **Input:** Keyboard; Cursor **Resolution:** 1,000 lines/inch **Accuracy:** (±) 0.005 inch **Repeatability:** (±) 0.005 inch **Software supported:** Operating system; Scientific or medical applications; Geologic; Construction; Tax mapping; Agriculture applications **Units sold:** 256 since 1981 **Cost:** $3,825-$8,000

PANASONIC INDUSTRIAL CO.
Computer Products Division

☐ Image Scanner
Technology: Flatbed **Input:** Keyboard **Resolution:** 400 dots/inch **Introduced:** 1986 **Cost:** $2,000

PENTEL OF AMERICA, LTD.

☐ DST-3A; DST-4A
Technology: Tablet or table; Electrostatic **Input:** Universal pen stylus **Pts/inch resolution:** 80 **Resolution:** 0.1 mm **Accuracy:** (±) 0.04 inch **Capability:** 3D **Software supported:** High-level languages; Business applications; CAD/CAM applications **Introduced:** 1986 **Cost:** $598-$1,298

POLHEMUS NAVIGATION SCIENCES
(division of McDonnell Douglas Electronics Co.)

☐ 3SPACE Digitizer
Technology: Electromagnetic **Input:** Stylus; Sensors **Resolution:** 0.016 inch **Accuracy:** 0.031 inch **Repeatability:** 0.016 inch **Capability:** 3D **Software supported:** High-level languages **Units sold:** 100 since 1982 **Cost:** $13,900

QUADRAM
(subsidiary of Intelligent Systems Corp.)

☐ Pallette Capture
Input: Camera **Color:** supported **Introduced:** 1985 **Cost:** $795

RICOH CORP.

☐ CS 30
Technology: Flatbed **Input:** Keyboard **Resolution:** 180-300 dots/inch **Color:** supported **Introduced:** 1986

☐ IS 30
Technology: Flatbed; CCD scan **Input:** Keyboard **Resolution:** 180-300 dots/inch

☐ IS 30-M2
Technology: Flatbed **Input:** Keyboard **Resolution:** 180-300 dots/inch **Introduced:** 1986 **Cost:** $1,900

☐ SS 30
Technology: Flatbed **Input:** Keyboard **Resolution:** 100-380 dots/inch **Introduced:** 1986

SCIENCE ACCESSORIES CORP.

☐ GP-6 Graf/Pen

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Technology: Sonic **Input:** Touch screen; Button device; Cursor; Tablet; Stylus **Resolution:** 0.005 inch **Accuracy:** (±) 0.01 inch **Repeatability:** (±) 0.01 inch **Support equip:** Cables **Units sold:** 8,050 since 1969 **Cost:** $3,000-$6,000

☐ GP-7 GRAFBAR
Technology: Sonic **Input:** Touch screen; Button device; Cursor; Tablet; Stylus **Resolution:** 0.01 inch **Accuracy:** (±) 0.04 inch **Repeatability:** (±) 0.01 inch **Support equip:** Software **Software supported:** High-level languages **Units sold:** 3,500 since 1981 **Cost:** $995

☐ GP-7 GRAFBAR MK II
Technology: Sonic **Input:** Touch screen; Button device; Cursor; Tablet; Stylus **Resolution:** 0.01 inch **Accuracy:** (±)0.04 inch **Repeatability:** (±)0.01 inch **Support equip:** Cables **Software supported:** High-level languages **Units sold:** 200 since 1985 **Cost:** $1,315

☐ GP-8 Sonic Digitizer
Technology: Sonic; 60 X 72 inch maximum **Input:** Cursor; Stylus **Resolution:** 0.005 inch **Accuracy:** (±) 0.01 inch **Repeatability:** (±) 0.01 inch **Support equip:** Software **Software supported:** High-level languages **Units sold:** 2,500 since 1983 **Cost:** $1,800-$3,185

☐ GP-8-3D-P
Technology: Sonic **Input:** Cursor; Wand **Resolution:** 0.01 cm **Accuracy:** (±)0.008 inch **Repeatability:** (±) 0.01 inch **Color:** supported **Support equip:** Software **Software supported:** Scientific or medical applications; CAD/CAM applications; Modeling; Robotic applications **Units sold:** 100 since 1979 **Cost:** $7,500

SCRIPTEL CORP.

☐ SPD Series
Technology: Resistive decoding technology **Input:** Button device; Cursor; Tablet; Stylus **Resolution:** 0.001 inch **Accuracy:** (±) 0.025 inch **Repeatability:** 0.002 inch **Color:** supported **Capability:** 3D **Support equip:** Cables **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications **Units sold:** 1,000 since 1984 **Cost:** $1,095-$3,795

SEIKO INSTRUMENTS U.S.A., INC.
Graphics Devices & Systems Division

☐ DT-3103 Landscape Style Tablet
Technology: Electromagnetic **Input:** Two-button cursor; Ballpoint cartridge; Stylus **Plot speed:** 200 points/sec **Resolution:** 0.005 inch **Accuracy:** 0.006 inch **Repeatability:** 0.005 inch **Software supported:** High-level languages **Introduced:** 1983 **Cost:** $595

☐ DT-4103 Portrait Style Tablet
Technology: Electromagnetic **Input:** 2, 4-button cursor; Ballpoint cartridge; Stylus **Plot speed:** 100 points/sec **Resolution:** 0.005 inch **Accuracy:** 0.006 inch **Repeatability:** 0.004 inch **Software supported:** High-level languages **Introduced:** 1983 **Cost:** $800

SPECTRAFAX CORP.

☐ SpectraFAX
Technology: Flatbed **Input:** Scanner **Resolution:** 200 points/inch **Color:** supported **Introduced:** 1985 **Cost:** $3,995

SUMMAGRAPHICS CORP.

☐ Bit Pad One
Technology: Magnetostrictive tablet **Input:** Cursor; Stylus **Resolution:** 0.005 inch **Accuracy:** (±) 0.009 inch **Software supported:** Business applications; CAD/CAM applications; Scientific or medical applications **Units sold:** 60,000 since 1979 **Cost:** $730-$1,395

☐ Bit Pad Two
Technology: Electromagnetic **Input:** Cursor; Stylus **Resolution:** 200; 500 lines/inch **Accuracy:** (±) 0.025 inch **Software supported:** Business applications; CAD/CAM applications; Paintbrush; Mapping applications **Units sold:** 5,000 since 1983 **Cost:** $499

☐ ID Intelligent Digitizer
Technology: Magnetostrictive tablet **Input:** Cursor; Stylus **Resolution:** 0.005 inch **Accuracy:** (±) 0.004 inch **Support equip:** Cables **Software supported:** Scientific or medical applications; CAD/CAM applications; Mapping applications **Units sold:** 17,000 since 1976 **Cost:** $2,400-$6,600

☐ Microgrid II
Technology: Electromagnetic **Input:** Cursor; Stylus **Resolution:** 1,000 lines/inch **Accuracy:** (±) 0.005 to 0.010 inch **Software supported:** Scientific or medical applications; CAD/CAM applications; Mapping; Textile; Architectural design applications **Units sold:** 500 since 1983 **Cost:** $2,400-$6,000

☐ MM Digitizer Series
Technology: Electromagnetic tablet **Input:** Cursor; Stylus **Resolution:** 100, 200, 400, 500, or 1,000 lines/inch (selectable) **Accuracy:** (±) 0.025 inch **Firmware avail.:** Scaling **Software supported:** Business applications; CAD/CAM applications; Paintbrush; Mapping applications **Units sold:** 20,000 since 1983 **Cost:** $290-$450

☐ SummaSketch
Technology: Electromagnetic **Input:** Stylus **Resolution:** Up to 1,000 lines/inch **Accuracy:** (±) 0.025 inch **Support equip:** Cables **Software supported:** Business applications; CAD/CAM applications; Paintbrush; Mapping applications **Units sold:** 5,500 since 1985 **Cost:** $549

SUN-FLEX CO., INC.

☐ Touchpen
Input: Touch screen; Stylus operated touch pad **Resolution:** 4,096 X 4,096 **Software supported:** CAD/CAM applications **Units sold:** 2,000 since 1983 **Cost:** $495

SYSSCAN, INC.

☐ KartoScan
Technology: Automatic free standing **Input:** Keyboard; Scan head **Resolution:** 0.001 to 0.008 inch **Accuracy:** (±) 0.0004 inch **Repeatability:** (±) 0.0004 inch **Software supported:** Vectorizing; Raster editing applications **Units sold:** 50 since 1980 **Cost:** $120,000

TECMAR, INC.

☐ eSCAN
Technology: Glass window; Optical scanner **Input:** Keyboard **Resolution:** 240 X 240 dpi **Color:** supported **Cost:** $2,495

VERSA COMPUTING, INC.

☐ VersaWriter Drawing System
Technology: Tablet or table **Input:** Pointer **Accuracy:** 0.031 inch **Repeatability:** 0.031 inch **Color:** supported **Support equip:** Cables; Software **Units sold:** 9,000 since 1979 **Cost:** $149-$299

VIDAR SYSTEMS CORP.

☐ VIDAR 4200 Series
Input: Keyboard **Resolution:** 40,000 dots per inch **Software supported:** CAD/CAM applications **Introduced:** 1985

VISION RESEARCH

☐ VR-300 Image Scanner
Technology: Flatbed **Input:** Keyboard; Mouse **Resolution:** 300 dots/inch **Color:** supported **Introduced:** 1986

XYZTEK CORP.

☐ E 960/480
Input: CCD array **Resolution:** 480 or 960 lines/inch **Accuracy:** (±) 0.001 inch **Repeatability:** 0.002 inch **Software supported:** High-level languages **Introduced:** 1984 **Cost:** $36,250-$60,000

☐ High Resolution Optical Scanner
Input: CCD array **Resolution:** 0.001 inch **Accuracy:** 0.001 inch **Repeatability:** 0.0002 inch **Software supported:** Operating system **Introduced:** 1984 **Cost:** $6,250-$60,000

CARL ZEISS, INC.

☐ ZIDAS
Technology: Electromagnetic **Input:** Tablet **Includes:** Plotter or hard copy device **Software supported:** Scientific or medical applications; Quality control; Fibers; Plastics; Paper applications

GRAPHICS SYSTEMS/ DISPLAYS

ADAC CORP.

☐ Model 2200 C1/C2
Technology: Vector display **Input:** Keyboard **Screen size:** 7 inches **Matrix screen:** 512 X 240 **Pixel size:** 1 bits **Capability:** 3D **Support equip:** Cables **Software supported:** Industrial applications **Introduced:** 1983 **Cost:** $1,495-$1,995

ADVANCED COLOR TECHNOLOGY, INC.

☐ System 2001
Technology: Raster display; Vector display **Includes:** Plotter or hard copy device **Color:** supported **Capability:** 3D **Software supported:** CAD/CAM applications; 2D rotation/translation; CAD/CAE applications **Introduced:** 1986 **Cost:** $2,995

ADVANCED LOGIC RESEARCH, INC.

☐ DART
Technology: Raster display **Input:** Keyboard; Cursor **Screen size:** 12 inches **Matrix data space:** 650 X 400 **Color:** supported **Introduced:** 1986 **Cost:** $2,495-$11,595

ALLOY COMPUTER PRODUCTS, INC.
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☐ PCST/G
Technology: Raster display **Input:** Keyboard **Screen size:** 14 inches **Matrix screen:** 720 X 348 **Cost:** $995

AMDEK CORP.
(subsidiary of Wyse Technology Corp.)

☐ 1280 Monochrome Graphics Display Subsystem
Technology: Raster display **Input:** Keyboard **Screen size:** 15 inches **Matrix data space:** 1,280 X 800 **Matrix screen:** 640 X 200 **Introduced:** 1986 **Cost:** $1,595

AMERICAN CADIX, INC.

☐ AD-4001 Digitizer System
Technology: Flatbed; Drum; Electrostatic; Raster display; Vector display **Input:** Keyboard; Tablet **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 20 inches **Pts/inch resolution:** 1,024 x 780 **Color:** supported **Maximum colors:** 7 displayable **Software supported:** Operating system; Business applications; Scientific or medical applications; CAD/CAM applications; PCB; Mechanical applications; Mapping **Units sold:** 60 since 1983 **Cost:** $230,000-$290,000

APOLLO COMPUTER, INC.

☐ DN570 TURBO
Technology: Vector display **Input:** Keyboard **Screen size:** 15; 19 inches **Matrix screen:** 1,024 X 800 **Color:** supported **Introduced:** 1986 **Cost:** $43,900

☐ DN580 TURBO
Technology: Vector display **Input:** Keyboard **Screen size:** 19 inches **Matrix screen:** 1,280 X 1,024 **Introduced:** 1986 **Cost:** $66,900

ARISTO GRAPHIC CORP.

☐ ARISTO tool-CAD
Input: Keyboard; Tablet; Mouse **Screen size:** 12 inches **Matrix screen:** 640 X 400 **Color:** supported **Maximum colors:** 4 displayable **Support equip:** Cables **Software supported:** CAD/CAM applications **Units sold:** 100 since 1985 **Cost:** $18,000

☐ Signus System - Display Graphics Production System
Technology: Vector display **Input:** Keyboard; Cursor; Tablet **Includes:** Plotter or hard copy device; Digitizer **Matrix screen:** 1,024 X 780 **Software supported:** CAA; Logo/decal and geometric design applications **Units sold:** 80 since 1983 **Cost:** $50,000-$350,000

ARRIGONI TECHNOLOGY, INC.

☐ Touch 'N Draw II
Technology: Raster display **Input:** Keyboard; Touch screen; Cursor; Tablet; Stylus **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix data space:** 1,280 X 1,024 **Matrix screen:** 1,280 X 1,024 **Pts/inch resolution:** 93 **Color:** supported **Maximum colors:** 256 in palette; 8 displayable **Capability:** 3D **Software supported:** CADD **Introduced:** 1983 **Cost:** $3,500-$42,000

ARTRONICS, INC.

☐ Artron PC-2000 24 Plane Studio Computer
Technology: Raster display **Input:** Keyboard; Tablet **Includes:** Digitizer **Screen size:** 13 inches **Matrix data space:** 512 X 512 **Matrix screen:** 485 X 485 **Pixel size:** 24 bits **Zoom ratio:** 4:16 **Color:** supported **Maximum colors:** 16.7M in palette; 230,400 displayable **Software supported:** Business applications **Units sold:** 300 since 1984 **Cost:** $41,000

☐ Artron PC-2000 8 Plane Studio Computer
Technology: Raster display **Input:** Keyboard; Tablet **Includes:** Digitizer **Screen size:** 13 inches **Matrix data space:** 512 X 512 **Matrix screen:** 512 X 485 **Pixel size:** 8 bits **Zoom ratio:** 4:16 **Color:** supported **Maximum colors:** 16.7M in palette; 256 displayable **Software supported:** Business applications **Units sold:** 300 since 1984 **Cost:** $29,000

☐ Slide System
Technology: Raster display; Camera **Input:** Tablet **Includes:** Plotter or hard copy device **Screen size:** 13 inches **Pts/inch resolution:** 4,000 line **Color:** supported **Maximum colors:** 256 displayable **Support equip:** Software **Software supported:** Operating system **Introduced:** 1985 **Cost:** $29,000

AT&T INFORMATION SYSTEMS

☐ OMNIDRAFT
Technology: Raster display **Input:** Mouse **Includes:** Digitizer **Screen size:** 12 inches **Matrix screen:** 640 X 400 **Color:** supported **Maximum colors:** 16 displayable **Software supported:** 2D rotation/translation; 3D rotation/translation; CAD; Architectural; Engineering applications **Introduced:** 1985 **Cost:** $10,400

AUTO-TROL TECHNOLOGY CORP.

☐ Advanced Color Graphics Workstation (AGW) 22
Technology: Vector display **Input:** Keyboard; Mouse **Screen size:** 19; 15 inches **Matrix data space:** 1,280 X 1,024 **Matrix screen:** 1,024 X 800 **Pixel size:** 4 bits **Color:** supported **Maximum colors:** 4,096 in palette; 16 displayable **Software supported:** High-level languages; CAD/CAM applications; 2D rotation/translation; 3D rotation/translation; Building design, process plant design, industrial plant design, automated publishing, mechanical design, NC and sheet metal fabrication applications **Introduced:** 1986 **Cost:** $40,000

☐ Advanced Graphics Workstation (AGW) 32
Technology: Raster display **Input:** Keyboard; Tablet **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 17 inches **Matrix screen:** 1,024 X 800 **Pixel size:** 1 bits **Pts/inch resolution:** 75 **Capability:** 3D **Software supported:** High-level languages; CAD/CAM applications; Mechanical design and manufacturing; Architectural, engineering, construction; Electronic technical publishing applications **Introduced:** 1984 **Cost:** $39,900

☐ Advanced Graphics Workstation (AGW) 52
Technology: Raster display **Input:** Keyboard; Mouse; Tablet **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix screen:** 1,024 X 800 **Pixel size:** 4; 8 bits **Pts/inch resolution:** 75 **Color:** supported **Maximum colors:** 16M in palette; 256; 16 displayable **Software supported:** Mechanical design; Manufacturing; Architectural, engineering, construction; Electronic technical publishing applications **Introduced:** 1985

☐ Advanced Graphics Workstation (AGW) 57
Technology: Raster display **Input:** Keyboard; Mouse; Thumbwheel; Tablet; Joystick **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix screen:** 1,280 X 1,024 **Pixel size:** 4 bits **Pts/inch resolution:** 86 **Color:** supported **Maximum colors:** 4,096 in palette; 16 displayable **Capability:** 3D **Software supported:** CAD/CAM applications; 3D rotation/translation; High-level languages; Architectural, engineering, construction; Mechanical design and manufacturing; Electronic technical publishing applications **Introduced:** 1985

☐ Advanced Graphics Workstation (AGW) 70
Technology: Raster display **Input:** Keyboard; Joystick; Thumbwheel; Tablet **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix screen:** 1,024 X 800 or 1,024 **Pixel size:** 4 or 8 bits **Pts/inch resolution:** 75 **Color:** supported **Maximum colors:** 16M in palette; 16; 256 displayable **Capability:** 3D **Software supported:** High-level languages; Operating system; CAD/CAM applications; Mechanical design and manufacturing; Architectural, engineering, construction; Electronic technical publishing applications **Units sold:** 500 since 1982

☐ Advanced Personal Workstation (APW) 15
Technology: Raster display **Input:** Keyboard; Joystick **Includes:** Plotter or hard copy device **Screen size:** 13 inches **Matrix screen:** 1,024 X 768 **Pixel size:** 32 bits **Pts/inch resolution:** 19 **Color:** supported **Maximum colors:** 256 displayable **Capability:** 3D **Software supported:** High-level languages; Operating system; CAD/CAM applications; 3D rotation/translation; Architectural, engineering, construction; Mechanical design and manufacturing; Electronic technical publishing applications **Introduced:** 1985

☐ Advanced Raster Workstation
Technology: Raster display **Input:** Keyboard; Joystick; Thumbwheel; Tablet **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix screen:** 1,024 X 1,024 **Pixel size:** 4 or 6 bits **Color:** supported **Maximum colors:** 16M in palette; 16; 64 displayable **Capability:** 3D **Software supported:** High-level languages; Operating system; CAD/CAM applications; Mechanical design and manufacturing; Architectural, engineering, construction; Electronic technical publishing applications **Units sold:** 300 since 1983

AUTOGRAPHIX, INC.

☐ Autographix-150
Technology: Raster display **Input:** Keyboard; Tablet; Mouse **Includes:** Digitizer; Plotter or hard copy device **Screen size:** 13 inches **Matrix screen:** 340 X 512 **Pixel size:** 8 bits **Pts/inch resolution:** 51 **Color:** supported **Maximum colors:** 64 displayable **Software supported:** Business applications **Introduced:** 1985 **Cost:** $19,900

☐ Autographix 200A
Technology: Raster display **Input:** Keyboard; Tablet; Mouse **Includes:** Digitizer; Plotter or hard copy device **Screen size:** 13 inches **Matrix data space:** 512 X 736 **Matrix screen:** 512 X 720 **Pixel size:** 8 bits **Pts/inch resolution:** 68.5 **Color:** supported **Maximum colors:** 4,096 in palette; 64 displayable **Software supported:** Business applications **Introduced:** 1985 **Cost:** $43,900

AVL

☐ Starburst
Technology: Raster display **Input:** Keyboard; Button device; Tablet; Puck **Includes:** Digitizer **Screen size:** 12 or 19 inches **Matrix screen:** 720 X 352 (monochrome); 702 X 480 (color) **Pixel size:** 8 bits **Color:** supported **Maximum colors:** 16.7M in palette; 240 displayable **Capability:** 3D **Software supported:** Operating system **Introduced:** 1984 **Cost:** $26,500

AYDIN CONTROLS
(division of Aydin Corp.)

☐ 2010 Tribune
Technology: Raster display **Input:** Keyboard **Includes:** Digitizer **Screen size:** 19 inches **Matrix data space:** 64K X 64K **Matrix screen:** 1,024 X 1,024; 1,024 X 768; 640 X 480 **Pixel size:** 8 bits **Pts/inch resolution:** 53 **Zoom ratio:** 1:12 **Color:** supported **Maximum colors:** 4,096 in palette; 256 displayable **Software supported:** High-level languages; Operating system **Units sold:** 100 since 1985 **Cost:** $9,300

AZTEK, INC.

☐ Artcenter 20
Technology: Raster display **Input:** Keyboard; Tablet; Stylus; Video scanner **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix screen:** 1,024 X 768 **Pixel size:** 8 bits **Zoom ratio:** 0.1:10 **Color:** supported **Maximum colors:** 16M in palette; 256 displayable **Software supported:** High-level languages; Operating system; Graphic arts applications **Units sold:** 120 since 1979 **Cost:** $98,000

☐ Studio System
Technology: Raster display **Input:** Keyboard; Tablet; Stylus; Video scanner **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix screen:** 1,024 X 768 **Pixel size:** 8 bits **Zoom ratio:** 0.1:10 **Color:** supported **Maximum colors:** 16M in palette; 256 displayable **Software supported:** High-level languages; Operating system; Business applications; Graphic arts applications **Units sold:** 120 since 1981 **Cost:** $46,000

BELL & HOWELL CO.
Quintar Division

☐ Q1000
Technology: Raster display **Input:** Mouse **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 14; 19 inches **Matrix data space:** 512 X 512 **Matrix screen:** 512 X 512 **Pixel size:** 4 bits **Zoom ratio:** 16X **Color:** supported **Maximum colors:** 4,096 in palette; 16 displayable **Capability:** 3D **Support equip:** Cables; Software **Software supported:** Business applications; CAD/CAM applications **Introduced:** 1983 **Cost:** $1,995

☐ Q1080
Technology: Raster display **Input:** Mouse **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 14; 19 inches **Matrix data space:** 832 X 630 **Matrix screen:** 832 X 630 **Pixel size:** 4 bits **Zoom ratio:** 16X **Color:** supported **Maximum colors:** 4,096 in palette; 16 displayable **Capability:** 3D **Support equip:** Cables; Software **Software supported:** Business applications; CAD/CAM applications **Introduced:** 1983 **Cost:** $2,195

CAD COUNSEL

☐ PROTEAN
Input: Keyboard; Tablet **Includes:** Digitizer **Screen size:** 12 inches **Matrix screen:** 640 X 480 **Color:** supported **Maximum colors:** 16 in palette **Capability:** 3D **Support equip:** Cables; Software **Software supported:** Operating system; CADD; Electrical applications; Mechanical applications; Architecture applications **Units sold:** 1,000 since 1983 **Cost:** $6,950

CADNETIX CORP.

☐ CDX-50000S CAD Workstation
Technology: Raster display **Input:** Keyboard; Mouse **Includes:** Plotter or hard copy device **Screen size:** 19 inches **Matrix data space:** 1,024 X 800 **Matrix screen:** 1,024 X 800 **Pixel size:** 6 bits **Pts/inch resolution:** 73.1 **Zoom ratio:** 2 to 32:1 **Color:** supported **Maximum colors:** 4,096 in palette; 64 displayable **Software supported:** High-level languages; Operating system **Units sold:** 100 since 1983 **Cost:** $82,900

CAMBRIDGE COMPUTER GRAPHICS

☐ MICRO 1024
Technology: Vector display **Input:** Keyboard **Screen size:** 20 inches **Matrix screen:** 1,024 X 780 **Color:** supported **Software supported:** CAD/CAM applications **Introduced:** 1985

CASCADE GRAPHICS SYSTEMS

☐ Cascade X
Technology: Raster display **Input:** Keyboard; Tablet; Stylus **Includes:** Plotter or hard copy device **Screen size:** 19 inches **Matrix screen:** 1,024 X 798 **Pixel size:** 32 bits **Pts/inch resolution:** 170 **Zoom ratio:** 10 to 1 **Color:** supported **Maximum colors:** 8 displayable **Software supported:** Operating system; CAD/CAM applications **Units sold:** 475 since 1984 **Cost:** $32,000

CHANCELLOR COMPUTER CORP.

☐ Chancellor 1000
Technology: Raster display **Input:** Keyboard; Mouse **Screen size:** 13 inches **Matrix screen:** 640 X 400 **Color:** supported **Software supported:** CAD/CAM applications

☐ Chancellor 2000
Technology: Raster display **Input:** Keyboard; Mouse **Screen size:** 19 inches **Matrix screen:** 1,024 X 768 **Color:** supported **Software supported:** CAD/CAM applications **Units sold:** 250 since 1984

CHANCELLOR CORP.

☐ Graphics Workstation
Technology: Raster display **Input:** Keyboard **Includes:** Plotter or hard copy device **Software supported:** Operating system; CAD/CAM applications; Engineering applications **Introduced:** 1983 **Cost:** $30,000

CHARTPAK
(subsidiary of Times Mirror Co.)

☐ System 640
Technology: Raster display **Input:** Tablet **Includes:** Digitizer **Screen size:** 14 inches **Matrix data space:** 640 X 480; 4,000 X 4,000 **Matrix screen:** 640 X 480 **Pixel size:** 3; 4; 8 bits **Pts/inch resolution:** 60; 360 **Zoom ratio:** 16:1 **Color:** supported **Maximum colors:** 16.8M in palette; 256 displayable **Capability:** 3D **Support equip:** Cables; Software **Software supported:** High-level languages; Business applications **Units sold:** 40 since 1984 **Cost:** $7,995-$10,995

COLORGRAPHIC COMMUNICATIONS CORP.

☐ XL-13; XL-19
Technology: Raster display **Input:** Keyboard **Screen size:** 13; 19 inches **Matrix data space:** 1,024 X 512 **Matrix screen:** 640 X 480 **Pixel size:** 4 bits **Pts/inch resolution:** 80 **Zoom ratio:** 2:X; 4:X **Color:** supported **Maximum colors:** 8 in palette **Support equip:** Adapter card **Software supported:** High-level languages; Business applications; CAD/CAM applications **Units sold:** 725 since 1983 **Cost:** $2,800 (13 inch); $3,200 (19 inch)

☐ XL-13K; XL-19K
Technology: Raster display **Input:** Keyboard **Screen size:** 13; 19 inches **Matrix data space:** 1,024 X 512 **Matrix screen:** 640 X 480 **Pixel size:** 4 bits **Pts/inch resolution:** 80 **Zoom ratio:** 2:X; 4:X **Color:** supported **Maximum colors:** 8 in palette **Support equip:** Adapter card **Software supported:** High-level languages; CAD/CAM applications **Units sold:** 500 since 1985 **Cost:** $3,000 (XL-13K); $3,400 (XL-19K)

COLORGRAPHICS SYSTEMS, INC.

☐ LiveLine P/C
Technology: Tablet or table; Raster display; Vector display **Input:** Keyboard; Cursor; Tablet; Mouse; Joystick; Laser disk **Matrix data space:** 4,000 X 4,000 **Color:** supported **Cost:** $29,900

COMMSOFT

☐ PI-101 PhotoImager
Technology: Camera **Input:** Keyboard; Tablet **Includes:** Digitizer **Matrix screen:** 320 X 200 **Pixel size:** 8; 4 bits **Zoom ratio:** 2:1 **Color:** supported **Maximum colors:** 256 in palette; 256 displayable **Software supported:** High-level languages **Units sold:** 300 since 1984 **Cost:** $995

THE COMPLETE CADD CO., INC.

☐ CADD-PC; CADD-AT
Technology: Tablet or table **Input:** Mouse **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 13 inches **Matrix screen:** 720 X 360; 640 X 400 **Support equip:** Cables; Software **Software supported:** CAD/CAM applications **Cost:** $2,695-$4,595

COMPUTER SYSTEMS

☐ PC CAD/Graphix System
Technology: Raster display **Input:** Keyboard; Light pen; Mouse **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 9-25 inches **Matrix data space:** 2,048 X 2,048 **Matrix screen:** 1,024 X 1,024; 700 X 350; 650 X 200 **Pixel size:** 8 bits **Color:** supported **Capability:** 3D **Software supported:** High-level languages; CAD/CAM applications **Introduced:** 1984 **Cost:** $2,880

COMPUTER TALK, INC.

☐ Model 428
Technology: Raster display **Input:** Keyboard; Light pen; Cursor **Includes:** Digitizer **Screen size:** 11 inches; (optional) 19 inches **Matrix data space:** 512 X 512; 512 X 1,024 **Matrix screen:** 512 X 512; 512 X 1,024 **Pixel size:** 1 or 3 bits **Pts/inch resolution:** 50 **Color:** supported **Capability:** 3D **Software supported:** High-level languages; Operating system; Business applications; Scientific or medical applications; CAD/CAM applications; Engineering applications **Units sold:** 2 since 1981 **Cost:** $19,824

CORPORATE DATA SCIENCES, INC.

☐ GD/P Display/Processor
Input: Keyboard **Includes:** Plotter or hard copy device **Screen size:** 17 inches **Matrix screen:** 1,024 X 1,024 **Support equip:** Cables; Software; Interface card **Software supported:** CAD/CAE **Units sold:** 50 since 1985 **Cost:** $4,995

CUBICOMP CORP.

☐ ModelMaker
Technology: Raster display **Input:** Keyboard; Tablet; Mouse **Includes:** Plotter or hard copy device **Screen size:** 13; 19 inches **Matrix screen:** 512 X 512 **Pixel size:** 16 bits **Color:** supported **Maximum colors:** 16M in palette **Capability:** 3D **Software supported:** Scientific or medical applications; CAD/CAM applications; Animation; 3D Modeling applications **Introduced:** 1983 **Cost:** $11,900

☐ PictureMaker
Technology: Raster display **Input:** Keyboard; Tablet; Mouse **Includes:** Plotter or hard copy device **Screen size:** 13; 19 inches **Matrix screen:** 512 X 512 **Pixel size:** 16 bits **Color:** supported **Maximum colors:** 16M in palette **Capability:** 3D **Software supported:** Video and film animation; 3D Modeling applications **Units sold:** 400 since 1982 **Cost:** $31,950

DAISY SYSTEMS CORP.

☐ BOARDMASTER
Technology: Vector display **Input:** Keyboard; Cursor **Matrix screen:** 1,022 X 824 **Color:** supported **Introduced:** 1986 **Cost:** $15,000-$110,000

☐ CHIPMASTER
Technology: Vector display **Input:** Keyboard; Cursor **Matrix screen:** 1,022 X 824 **Color:** supported **Introduced:** 1984 **Cost:** $124,000

☐ GATEMASTER
Technology: Vector display **Input:** Keyboard; Cursor **Matrix screen:** 1,022 X 824 **Color:** supported **Introduced:** 1983 **Cost:** $100,000

☐ LOGICIAN
Technology: Raster display **Input:** Keyboard; Cursor **Matrix screen:** 1,022 X 824 **Color:** supported **Introduced:** 1982 **Cost:** $85,000

☐ MegaLOGICIAN and PMX
Technology: Vector display **Input:** Keyboard; Cursor **Matrix screen:** 1,022 X 824 **Color:** supported **Introduced:** 1984 **Cost:** $128,000

☐ Personal LOGICIAN
Technology: Raster display **Input:** Keyboard; Cursor **Matrix screen:** 1,022 X 824 **Color:** supported **Introduced:** 1985 **Cost:** $20,000

☐ SILICONMASTER
Technology: Vector display **Input:** Keyboard; Cursor **Matrix screen:** 1,022 X 824 **Color:** supported **Introduced:** 1986

DATACOPY CORP.

☐ Model 500
Technology: Raster display **Input:** Camera **Includes:** Plotter or hard copy device **Screen size:** 15 inches **Matrix data space:** 1,728 X 2,200 **Matrix screen:** 1,728 X 2,200 **Pixel size:** 1 bits **Pts/inch resolution:** 200 **Capability:** 3D **Software supported:** High-level languages; Business applications **Units sold:** 100 since 1982 **Cost:** $22,950

DATAVISION CORP.

☐ Capture Station/Videograph Station
Technology: Raster display; Camera **Input:** Keyboard **Includes:** Digitizer **Matrix data space:** 660 X 480 **Pixel size:** 1 bits **Software supported:** Operating system; Business applications **Units sold:** 200 since 1983 **Cost:** $35,000

DICOMED CORP.

☐ IMAGINATOR
Technology: Raster display **Input:** Keyboard; Tablet; Stylus **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix data space:** 64K X 64K **Matrix screen:** 640 X 480 **Pixel size:** 8 bits **Pts/inch resolution:** 50 **Zoom ratio:** 50:1 **Color:** supported **Maximum colors:** 16.7M in palette; 124 displayable **Software supported:** Business applications; Graphic arts applications **Introduced:** 1983

☐ PRODUCERxp
Technology: Raster display **Input:** Keyboard; 4-button puck **Includes:** Digitizer **Screen size:** 13 inches **Matrix data space:** 65,000 X 65,000 **Matrix screen:** 640 X 480 **Pixel size:** 16 bits **Color:** supported **Maximum colors:** 16M in palette **Software supported:** Operating system; Business applications **Introduced:** 1985 **Cost:** $79,900

DIGITAL EQUIPMENT CORP.

☐ VT240
Technology: Raster display **Input:** Keyboard; Cursor; Digitizer **Screen size:** 12 inches **Matrix screen:** 800 X 240 **Pixel size:** 2 bits **Cost:** $1,980

☐ VT241
Technology: Raster display **Input:** Keyboard; Cursor; Digitizer **Screen size:** 13 inches **Matrix screen:** 800 X 240 **Pixel size:** 2 bits **Color:** supported **Maximum colors:** 64 in palette; 4 displayable **Cost:** $2,980

EUTECTIC ELECTRONICS, INC.

☐ VDP3 Vector Display Processor
Technology: Vector display **Input:** Mouse; Bit pad **Includes:** Plotter or hard copy device **Screen size:** 15 inches **Pts/inch resolution:** 400 **Capability:** 3D **Support equip:** Cables; Software **Software supported:** High-level languages; Scientific or medical applications **Units sold:** 14 since 1984 **Cost:** $7,975

FARADAY ELECTRONICS

☐ HiRez 100XL
Technology: Vector display **Input:** Keyboard; Mouse **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 15 inches **Matrix data space:** 4K X 4K **Matrix screen:** 1,024 X 780 **Zoom ratio:** Up to 300X **Software supported:** High-level languages **Units sold:** 3,000 since 1985 **Cost:** $1,995

FORWARD TECHNOLOGY, INC.

☐ GraphText I
Technology: Raster display; Windowing; Video **Input:** Keyboard; Mouse **Screen size:** 15 inches **Matrix screen:** 1,024 X 768 **Introduced:** 1985

GENERAL PARAMETRICS CORP.

☐ VideoShow 150, 150F
Technology: Vector display **Input:** Keyboard; VCR **Matrix data space:** 2,048 X 484 **Matrix screen:** 720 X 348 **Color:** supported **Maximum colors:** 1,000 displayable **Capability:** 3D **Introduced:** 1984 **Cost:** $3,150-$3,650

☐ VideoShow 160
Technology: Vector display **Input:** Keyboard; VCR **Matrix data space:** 2,048 X 1,024 **Matrix screen:** 720 X 348 **Color:** supported **Introduced:** 1985 **Cost:** $4,350

GEO BASED SYSTEMS, INC.

☐ GWS Model 3
Technology: Vector display **Input:** Keyboard; Tablet **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix screen:** 1,024 X 1,024; 640 X 480 **Color:** supported **Maximum colors:** 16 in palette; 16 displayable **Software supported:** High-level languages; Operating system; STRINGS database; Mapping applications **Units sold:** 70 since 1979 **Cost:** $30,000-$300,000

HMW ENTERPRISES, INC.

☐ 9081 Rainbow Integrated Terminal
Technology: Raster display **Input:** Keyboard; Light pen; Touch screen **Screen size:** 19 inches **Matrix data space:** 480 X 384 **Matrix screen:** 480 X 384 **Pixel size:** 3 X 2; 1 X 1 bits **Color:** supported **Maximum colors:** 8 in palette **Support equip:** Software **Software supported:** Process control; Batch processing applications **Units sold:** 500 since 1982 **Cost:** $5,000

☐ 9083 Color Graphics Display Terminal
Technology: Raster display **Input:** Keyboard; Touch screen; Light pen **Screen size:** 13 inches **Matrix data space:** 480 X 384 **Matrix screen:** 480 X 384 **Pixel size:** 3 X 2; 1 X 1 bits **Color:** supported **Maximum colors:** 8 in palette **Support equip:** Software **Software supported:** Process control; Batch processing applications **Units sold:** 300 since 1983 **Cost:** $3,995-$4,045

☐ 9203 Rainbow Dust, Oil, Watertight Terminal
Technology: Raster display **Input:** Keyboard **Screen size:** 13 inches **Matrix data space:** 480 X 384 **Matrix screen:** 480 X 384 **Pixel size:** 3 X 2; 1 X 1 bits **Color:** supported **Maximum colors:** 8 in palette **Support equip:** Software **Software supported:** Process control; Batch processing applications **Units sold:** 100 since 1983 **Cost:** $5,500

☐ 9204 Rainbow Terminal for Class 1 & 2 Explosive Environments
Technology: Raster display **Input:** Touch sensitive keypad **Screen size:** 13 inches **Matrix screen:** 480 X 384 **Pixel size:** 3 X 2 bits **Color:** supported **Maximum colors:** 8 in palette **Software supported:** Process control; Batch processing applications **Units sold:** 10 since 1984 **Cost:** $7,000-$12,000

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Model 6153
Technology: Raster display **Input:** Keyboard; Tablet **Screen size:** 12; 14 inches **Matrix screen:** 720 X 512 **Maximum colors:** 16 displayable **Introduced:** 1986 **Cost:** $610

☐ Model 6154
Technology: Raster display **Input:** Keyboard; Tablet **Screen size:** 14 inches **Matrix screen:** 720 X 512 **Color:** supported **Maximum colors:** 16 displayable **Introduced:** 1986 **Cost:** $1,550

☐ Model 6155
Technology: Raster display **Input:** Keyboard; Tablet **Screen size:** 15 inches **Matrix screen:** 1,024 X 768 **Introduced:** 1986 **Cost:** $1,150

☐ 3277 Graphics Attachment Workstation
Technology: Vector display; Storage tube **Input:** Keyboard; Tablet **Includes:** Plotter or hard copy device; Digitizer **Software supported:** High-level languages; Operating system; CAD/CAM applications; Circuit design

☐ 3278/3279 Display Station
Technology: Raster display; Plasma display **Input:** Keyboard; Light pen **Color:** supported **Maximum colors:** 4; 7 displayable **Capability:** 3D **Software supported:** High-level languages; Operating system; Business applications; Statistical analysis; Wire diagramming applications

☐ 5080 Graphics System
Technology: Raster display **Input:** Keyboard; Cursor; Tablet; Stylus **Screen size:** 19 inches **Matrix screen:** 1,024 X 1,024 **Color:** supported **Maximum colors:** 4,096 in palette; 256 displayable **Capability:** 3D **Software supported:** Operating system; Scientific or medical applications; CAD/CAM applications; Stress analysis; Mathematical modeling applications **Introduced:** 1983 **Cost:** $19,750-$24,750; Lease (mo.) —$385

☐ 5175 PC Graphics Display
Technology: Raster display **Input:** Graphics controller **Screen size:** 13 inches **Matrix screen:** 640 X 480 **Pixel size:** 4 bits **Color:** supported **Capability:** 3D **Software supported:** Business applications; CAD/CAM applications; CAE; Image processing applications **Introduced:** 1984 **Cost:** $1,295

☐ 581 Plasma Display
Technology: Plasma display **Screen size:** 10.7 X 13.4 inches **Matrix screen:** 960 X 768 **Software supported:** CAD/CAM applications; Land and architectural mapping; Commercial and military applications **Introduced:** 1982

☐ 7534 Industrial Graphics Display
Matrix screen: 640 X 350 **Color:** supported **Maximum colors:** 64 in palette; 16 displayable **Introduced:** 1985 **Cost:** $1,175

ID SYSTEMS CORP.

☐ ID-1024
Technology: Raster display **Input:** Keyboard; Touch screen; Light pen; Joystick; Tablet; Mouse **Screen size:** 14; 19 inches **Matrix data space:** 32K X 32K **Matrix screen:** 1,024 X 780 **Pixel size:** 4 bits **Zoom ratio:** 16:1 **Color:** supported **Maximum colors:** 4,096 in palette; 16 displayable **Software supported:** High-level languages **Units sold:** 200 since 1985 **Cost:** $4,995-$6,995

☐ ID-200
Technology: Raster display **Input:** Keyboard; Touch screen; Light pen; Cursor; Trackball; Mouse; Tablet; Joystick **Screen size:** 14; 19; 25 inches **Matrix data space:** 2,000 X 512 **Matrix screen:** 1,280 x 480 **Pixel size:** 3 or 4 bits **Zoom ratio:** 16:1 **Color:** supported **Maximum colors:** 8; 16 displayable **Software supported:** High-level languages; CAD/CAM applications **Units sold:** 3,500 since 1984 **Cost:** $3,295-$5,295

IEV CORP.

☐ IEV-60
Technology: Raster display **Input:** Keyboard; Touch screen; Light pen; Button device; Cursor; Trackball; Joystick; Thumbwheel; Tablet; Mouse **Includes:** Digitizer **Matrix screen:** 640 X 408; 544 X 480 **Pixel size:** 4 bits **Color:** supported **Maximum colors:** 16 displayable **Support equip:** Cables; Software **Software supported:** High-level languages; Operating system; Business applications; Scientific or medical applications; CAD/CAM applications **Units sold:** 150 since 1984 **Cost:** $2,-600

INOVION CORP.

☐ Personal Graphics Systems
Technology: Raster display **Input:** Keyboard; Optical mouse **Includes:** Digitizer **Screen size:** 19 inches **Matrix data space:** 512 X 512 **Matrix screen:** 512 X 483 **Pixel size:** 24 bits **Zoom ratio:** 8:1 **Color:** supported **Maximum colors:** 2.1M in palette; 0.25M displayable **Capability:** 3D **Support equip:** Software **Units sold:** 250 since 1985 **Cost:** $4,995-$7,995

INTEGRATED TECHNOLOGIES, INC.

☐ Ani-Maker
Technology: Tablet or table; Video **Input:** Keyboard; Cursor; Tablet; Mouse **Includes:** Digitizer **Screen size:** 19 inches **Matrix screen:** 672 X 482 **Color:** supported **Cost:** $37,500

☐ Ani-Maker PLUS
Technology: Tablet or table; Video **Input:** Keyboard; Cursor; Tablet; Mouse **Includes:** Digitizer **Screen size:** 19 inches **Matrix screen:** 672 X 482 **Color:** supported **Cost:** $44,500

☐ Image-Maker
Technology: Tablet or table; Video **Input:** Keyboard; Cursor; Tablet; Mouse **Includes:** Digitizer **Screen size:** 19 inches **Matrix screen:** 672 X 482 **Color:** supported **Cost:** $59,500

☐ News-Maker
Technology: Tablet or table; Video **Input:** Keyboard; Cursor; Tablet; Mouse **Includes:** Digitizer **Screen size:** 19 inches **Matrix screen:** 672 X 482 **Color:** supported **Cost:** $33,500

☐ Weather-Maker
Technology: Tablet or table; Video **Input:** Keyboard; Cursor; Tablet; Mouse **Includes:** Digitizer **Screen size:** 19 inches **Matrix screen:** 672 X 482 **Color:** supported **Cost:** $24,995

INTERGRAPH CORP.

☐ InterPro 32
Technology: Raster display **Input:** Keyboard **Screen size:** 15; 19 inches **Matrix data space:** 1,184 X 884 **Pts/inch resolution:** 100 **Color:** supported **Maximum colors:** 4,096 in palette; 256 displayable **Capability:** 3D **Software supported:** Operating system; CAD/CAM applications **Introduced:** 1985 **Cost:** $20,000

ITT QUME CORP.

☐ QVT-511GX
Technology: Raster display **Input:** Keyboard; Cursor; Mouse **Includes:** Plotter or hard copy device **Screen size:** 14 inches **Matrix data space:** 4,096 X 4,096 **Matrix screen:** 480 X 360 **Pixel size:** 3 bits **Color:** supported **Maximum colors:** 64 in palette; 8 displayable **Software supported:** High-level languages; Operating system; Business applications; CAD/CAM applications **Introduced:** 1984 **Cost:** $2,995

JUPITER SYSTEMS, INC.

☐ Jupiter 7 PLUS
Technology: Raster display **Input:** Keyboard; Joystick; Tablet; Mouse; Hex keypad **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 13; 19 inches **Matrix data space:** 1,024 X

1,024 **Matrix screen:** 768 X 585; 1,024 X 780; 768 X 575; 640 X 483; 512 X 512 **Pixel size:** 4 to 8 bits **Pts/inch resolution:** 60 to 75 **Zoom ratio:** 1:X to 16:X **Color:** supported **Maximum colors:** 16.7M in palette; 256 displayable **Support equip:** Cables **Software supported:** High-level languages **Units sold:** 400 since 1982 **Cost:** $9,500-$19,000

KEL, INC.

☐ J1014

Technology: Raster display **Input:** Keyboard; Tablet; Mouse **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 14 inches **Matrix data space:** 1,024 X 1,024 **Matrix screen:** 1,024 X 780 **Pixel size:** 1 bits **Pts/inch resolution:** 107 **Software supported:** High-level languages **Units sold:** 150 since 1983 **Cost:** $2,595

☐ J1014C

Technology: Raster display **Input:** Keyboard; Tablet; Mouse **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 14 inches **Matrix data space:** 1,024 X 1,024 **Matrix screen:** 1,024 X 780 **Pts/inch resolution:** 107 **Color:** supported **Maximum colors:** 8 in palette; 8 displayable **Software supported:** High-level languages **Units sold:** 100 since 1983 **Cost:** $4,950

☐ J1019C

Technology: Raster display **Input:** Keyboard; Tablet; Mouse **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix data space:** 1,024 X 1,024 **Matrix screen:** 1,024 X 780 **Pts/inch resolution:** 71 **Color:** supported **Maximum colors:** 8 in palette; 8 displayable **Software supported:** High-level languages **Units sold:** 15 since 1983 **Cost:** $6,750

KINETIC VISION SYSTEMS

☐ 4D Color Graphics System

Technology: Vector display **Input:** Keyboard; Tablet; 3D pen; Digitizer; Communications port **Screen size:** 19 inches **Matrix screen:** 4,096 X 4,096; 512 X 512; 1,024 X 1,024 **Pixel size:** 24 bits **Pts/inch resolution:** 500 **Zoom ratio:** 10:1 **Color:** supported **Maximum colors:** 16.7M in palette; 4,096 displayable **Capability:** 3D **Support equip:** Cables; color monitor **Software supported:** High-level languages **Units sold:** 20 since 1985 **Cost:** $4,200; Lease (mo.) —$630

LASERMASTER, LTD.

☐ LaserMaster 286/CTC

Technology: Raster display **Input:** Keyboard; Tablet; Mouse **Screen size:** 19 inches **Matrix screen:** 1,280 X 1,024 **Pixel size:** 2 bits **Pts/inch resolution:** 100 **Support equip:** Cables; Software **Units sold:** 40 since 1986 **Cost:** $5,495; Lease (mo.) —$300

LEXIDATA

(division of Adage, Inc.)

☐ PG 90

Technology: Raster display **Input:** Tablet; Mouse; Puck **Screen size:** 15; 19 inches **Matrix data space:** 2,048 X 1,024 **Matrix screen:** 1,280 X 1,024 **Color:** supported **Maximum colors:** 16.7M in palette; 16; 256 displayable **Capability:** 3D **Introduced:** 1986 **Cost:** $7,995-$9,395

MCDONNELL DOUGLAS INFORMATION SYSTEMS GROUP

(component of McDonnell Douglas Corp.)

☐ DFDdraw

Input: Keyboard; Thumbwheel **Includes:** Plotter or hard copy device **Color:** supported **Software supported:** High-level languages; Operating system **Units sold:** 300 since 1984 **Cost:** $500

MEDIA CYBERNETICS, INC.

☐ Angel Graphics Workstation

Technology: Raster display **Input:** Keyboard; Cursor; Trackball; Joystick; Mouse; Tablet **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 13; 19 inches **Matrix data space:** 640 X 480; 512 X 512; 1,024 X 1,024 **Matrix screen:** 640 X 480 **Pixel size:** 4 and 8 bits **Zoom ratio:** 16:1 **Color:** supported **Maximum colors:** 16.8M in palette; 256 displayable **Capability:** 3D **Software supported:** High-level languages; Operating system; Business applications; Scientific or medical applications; CAD/CAM applications; Architectural design applications **Units sold:** 500 since 1982 **Cost:** $8,000-$32,025

METHEUS CORP.

☐ Omega 2000 Series

Technology: Raster display **Input:** Button device; Cursor **Includes:** Digitizer **Screen size:** 15; 19 inches **Matrix screen:** 1,280 X 1,024; 640 X 512; 1,024 X 768; 1,024 X 1,024; 736 X 552; 640 X 480 **Pixel size:** 4; 8; 32 bits **Zoom ratio:** 1:X - 16:X **Color:** supported **Maximum colors:** 16.7M in palette; 16; 256; 16.7M displayable **Capability:** 3D **Support equip:** Cables; Interface; Driver **Software supported:** High-level languages; 2D rotation/translation; 3D rotation/translation **Units sold:** 100 since 1985 **Cost:** $13,900-$17,900

☐ 300/400 Series

Technology: Raster display **Input:** Tablet; Mouse; Keyboard; Joystick **Includes:** Digitizer **Screen size:** 15;19 inches **Matrix data space:** 1,024 X 1,024 **Matrix screen:** (33 Hz.) 1,024 X 768; (60 Hz., non-interlaced) 736 X 552; (30 Hz.) 1,024 X 1,024; (30 Hz., RS-170) 640 X 480 **Pixel size:** 4 or 8 bits **Zoom ratio:** 1X:16X **Color:** supported **Maximum colors:** 256 displayable **Capability:** 3D **Support equip:** Cables; Interface; Driver **Software supported:** High-level languages **Units sold:** 1,000 since 1982 **Cost:** $5,950 (300); $8,950 (400)

☐ 500 Series

Technology: Raster display **Input:** Tablet; Keyboard; Joystick; Mouse **Includes:** Digitizer **Screen size:** 19; 15 inches **Matrix data space:** 1,280 X 1,024; 640 X 512 **Matrix screen:** (60 Hz., non-interlaced) 1,280 X 1,024 or 640 X 512; (30 Hz.) 1,280 X 1,024 **Pixel size:** 4; 8; 32 bits **Zoom ratio:** 1X:16X **Color:** supported **Maximum colors:** 16M in palette; 256 or 16M displayable **Capability:** 3D **Support equip:** Cables; Interface; Driver **Software supported:** High-level languages; PLOT-10; Axia; GKS **Units sold:** 800 since 1983 **Cost:** $12,950

MICROGRAPHIC IMAGES CORP.

☐ MicroImager

Technology: Raster display; Camera **Input:** Keyboard; Mouse; Tablet **Includes:** Plotter or hard copy device; Digitizer **Matrix data space:** 640 X 480; 512 X 512 **Matrix screen:** 640 X 480; 512 X 512; 1,024 X 1,024 **Pixel size:** 3 bits **Color:** supported **Maximum colors:** 16M in palette; 256 displayable **Capability:** 3D **Software supported:** High-level languages; Operating system **Units sold:** 15 since 1984 **Cost:** $2,000-$5,500

MINDSET CORP.

☐ Mindset II Advanced Professional Videographics System

Technology: Tablet or table; Camera; Video **Input:** Keyboard; Tablet; Mouse; Joystick; Video tape; Camera; TV broadcast **Matrix screen:** 640 X 400; 320 X 200 **Color:** supported **Cost:** $3,495

☐ Mindset Professional Videographics System

Technology: Tablet or table; Camera; Video **Input:** Keyboard; Joystick; Tablet; Mouse; Video tape; Camera; TV broadcast **Matrix screen:** 320 X 200 **Color:** supported **Cost:** $1,499

☐ Mindset Video Production System

Technology: Tablet or table; Camera; Video; Laser disk **Input:** Keyboard; Joystick; Tablet; Mouse; Video tape; Camera; TV broadcast **Matrix screen:** 320 X 200 **Color:** supported **Cost:** $1,299

MONITERM CORP.

☐ Viking 1

Technology: Raster display **Input:** Keyboard **Screen size:** 19 inches **Matrix data space:** 1,024 X 768 **Matrix screen:** 1,280 X 960 **Color:** supported **Introduced:** 1986 **Cost:** $23,000

NEC HOME ELECTRONICS (U.S.A.), INC.

Personal Computer Products Division

☐ MultiSync

Technology: Raster display **Input:** Keyboard; Cursor **Screen size:** 13 inches **Matrix data space:** 800 x 560 **Matrix screen:** 640 X 200 **Pts/inch resolution:** 800 **Color:** supported **Introduced:** 1986 **Cost:** $799

NEW MEDIA GRAPHICS CORP.

☐ GraFlex

Technology: High resolution graphics accelerator **Input:** Keyboard; Touch screen; Light pen; Joystick; Tablet; Mouse **Screen size:** 5 to 25 inches **Matrix data space:** 4,096 X 3,072 **Matrix screen:** 640 X 480; 1,280 X 1,024 **Pts/inch resolution:** 70 **Color:** supported **Introduced:** 1986 **Cost:** $3,795

☐ PC/GraphOver

Technology: Raster display; Overlays graphics on NTSC video; Analog RGB and/or NTSC output **Input:** Keyboard; Touch screen; Light pen; Joystick; Tablet; Mouse **Screen size:** 5 to 25 inches **Matrix data space:** 640 X 400 **Matrix screen:** 640 X 400 **Pts/inch resolution:** 70 **Color:** supported **Units sold:** 700 since 1985 **Cost:** $2,190

NORTHWEST DIGITAL SYSTEMS

☐ GP-29

Technology: Flatbed **Input:** Keyboard; Mouse **Screen size:** 14 inches **Matrix screen:** 1,024 X 500 **Zoom ratio:** 1:8 **Introduced:** 1984 **Cost:** $1,695

OMNICOMP GRAPHICS CORP.

☐ Omni 2000 GDS

Technology: Raster display **Input:** Keyboard; Cursor; Tablet; Mouse **Matrix data space:** 1,280 X 1,024 **Matrix screen:** 1,280 X 1,024 **Pixel size:** 8 bits **Color:** supported **Maximum colors:** 16.7M in palette; 256 displayable **Capability:** 3D **Support equip:** Cables; Parallel interface **Software supported:** High-level languages; 2D rotation/translation; 3D rotation/translation **Introduced:** 1985 **Cost:** $9,800

QYTEL

(division of Consolidated Data Systems, Ltd.)

☐ Qytel 5278-2

Technology: Raster display **Input:** Keyboard **Includes:** Plotter or hard copy device **Screen size:** 12; 15 inches **Matrix screen:** 640 X 480 **Color:** supported **Maximum colors:** 16 displayable **Software supported:** CAD/CAM applications **Units sold:** 3,000 since 1983 **Cost:** $1,795; Lease (mo.) — $80

RAMTEK CORP.

☐ RM-9460

Technology: Raster display **Input:** Keyboard; Trackball; Joystick; Tablet; Mouse; Touch screen **Screen size:** 13 to 25 inches **Matrix data space:** 32K X 32K **Matrix screen:** 1,280 X 1,024; 640 X 512 **Pixel size:** 4-16 bits **Zoom ratio:** 1:1; 1:16 **Color:** supported **Maximum colors:** 16.7M in palette; 4,096 displayable **Support equip:** Cables; Software; ROM **Software supported:** High-level languages; Weather image processing; CAD electronic and mechanical business control applications **Units sold:** 500 since 1981 **Cost:** $19,300-$94,600

☐ RM-9465
Technology: Raster display **Input:** Keyboard; Light pen; Tablet; Joystick; Mouse; Touch screen **Screen size:** 19 to 25; 13 to 25 inches **Matrix data space:** 32K X 32K **Matrix screen:** 1,280 X 1,024; 640 X 512 **Pixel size:** 4 to 24; 4 to 16 bits **Zoom ratio:** 1:1; 1:16 **Color:** supported **Maximum colors:** 16.7M in palette; 4,096 displayable **Support equip:** Cables; Software; ROM **Software supported:** High-level languages; Weather processing; CAD electrical and mechanical control; Architectural design applications **Units sold:** 500 since 1983 **Cost:** $19,300-$94,600

SCION CORP.

☐ FAX640
Technology: Raster display **Input:** Video camera; VCR **Matrix data space:** 640 X 408; 544 X 480 **Pixel size:** 4 bits **Color:** supported **Support equip:** Cables; Software **Software supported:** High-level languages **Introduced:** 1984 **Cost:** $1,595

☐ LIVE640
Technology: Raster display **Input:** Video camera; VCR **Matrix data space:** 640 X 800 **Color:** supported **Support equip:** Cables; Software **Software supported:** High-level languages **Units sold:** 50 since 1984 **Cost:** $2,250

SEIKO INSTRUMENTS U.S.A., INC.
Graphics Devices & Systems Division

☐ GR-1104 Color Graphic Terminal
Technology: Raster display **Input:** Keyboard; Tablet; Mouse **Includes:** Digitizer **Screen size:** 14 inches **Matrix data space:** 32K X 32K **Matrix screen:** 1,024 X 780 **Pixel size:** 3 bits **Zoom ratio:** 128:1 **Color:** supported **Maximum colors:** 512 in palette; 8 displayable **Software supported:** High-level languages; 2D rotation/translation **Introduced:** 1983 **Cost:** $4,350

☐ GR-2414 Color Graphic Terminal
Technology: Raster display **Input:** Keyboard; Tablet **Includes:** Digitizer **Screen size:** 20 inches **Matrix data space:** 32K X 32K **Matrix screen:** 1,280 X 1,024 **Pixel size:** 4-10 bits **Zoom ratio:** 128:1 **Color:** supported **Maximum colors:** 16M in palette; 1,024 displayable **Support equip:** Cables **Software supported:** High-level languages **Introduced:** 1983 **Cost:** $15,950

☐ GR-2424 Color Workstation
Technology: Raster display **Input:** Keyboard; Tablet **Screen size:** 20 inches **Matrix data space:** 32K X 32K **Matrix screen:** 1,280 X 1,024 **Pixel size:** 4-10 bits **Zoom ratio:** 128:1 **Color:** supported **Maximum colors:** 16M in palette; 1,024 displayable **Support equip:** Cables **Software supported:** High-level languages **Introduced:** 1984 **Cost:** $16,950

SIGMA DESIGN, INC.

☐ SIGMA III
Technology: Raster display **Input:** Keyboard; Joystick; Tablet; Stylus **Includes:** Plotter or hard copy device **Screen size:** 19 inches **Matrix screen:** 640 X 480; 900 X 1,100; 1,280 X 1,024 **Pixel size:** 8 bits **Pts/inch resolution:** 75-42 **Color:** supported **Maximum colors:** 16.7M in palette; 256 displayable **Capability:** 3D **Software supported:** Operating system; 3D rotation/translation; Architectural and space-planning/facilities management; Structural drafting analysis and design applications **Units sold:** 300 since 1983 **Cost:** $58,000 and up

SILICON GRAPHICS, INC.

☐ Iris 3000 Series
Technology: Raster display **Input:** Keyboard; Button device; Cursor; Mouse **Includes:** Digitizer **Screen size:** 15; 19 inches **Matrix data space:** 1,024 X 1,024 **Matrix screen:** 1,024 X 768 **Color:** supported **Introduced:** 1986

SKOK SYSTEMS, INC.

☐ Artech System
Technology: Tablet or table; Electronic stylus **Input:** Keyboard; Tablet; Stylus **Includes:** Plotter or hard copy device **Screen size:** 19; 12 inches **Matrix screen:** 1,024 X 768 **Color:** supported **Maximum colors:** 16M in palette; 256 displayable **Capability:** 3D **Support equip:** Cables **Software supported:** High-level languages; 3D rotation/translation; 2D rotation/translation; Networking applications; CADD **Units sold:** 1,400 since 1979 **Cost:** $25,900-$74,900

SUMITRONICS, INC.
(subsidiary of Sumitomo Corp.)

☐ Sumicom 2120
Technology: Raster display **Input:** Keyboard **Screen size:** 12 inches **Matrix screen:** 640 X 200 **Color:** supported **Maximum colors:** 16 displayable **Capability:** 3D **Introduced:** 1985 **Cost:** $499

SUPERSET, INC.

☐ PGM (Professional Graphics Mainframe)
Technology: Raster display; Vector display **Input:** Keyboard; Tablet **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix data space:** 4,096 X 4,096 **Matrix screen:** 1,024 X 768 **Pixel size:** 3 to 6 bits **Pts/inch resolution:** 1,000 **Color:** supported **Maximum colors:** 16.7M in palette; 16.7M displayable **Capability:** 3D **Software supported:** High-level languages; Graphics utilities **Units sold:** 200 since 1979 **Cost:** $37,-500

☐ XP/48
Technology: Raster display; Electrostatic; Camera **Input:** Light pen; Keyboard; Mouse **Includes:** Digitizer **Matrix data space:** 4,096 X 4,096 **Matrix screen:** 4K X 4K **Pixel size:** 48 bits **Color:** supported **Maximum colors:** 16.7M in palette; 80,000-100,000 displayable **Capability:** 3D **Software supported:** High-level languages; Operating system; Business applications; 2D rotation/translation; 3D rotation/translation; Solid modeling; Computer animation; Image processing; Mapping; Custom type-font generation applications **Cost:** $12,500

SYSTEMS MODELING CORP.

☐ Cinema Simulation/Animation System
Input: Mouse **Includes:** Digitizer **Screen size:** 19 inches **Matrix screen:** 832 X 624 **Zoom ratio:** 16:1 **Color:** supported **Maximum colors:** 4,096 in palette **Capability:** 3D **Software supported:** 2D rotation/translation; Simulation/animation applications **Units sold:** 15 since 1985 **Cost:** $28,000

TAT GRAPHICS GROUP, INC.

☐ Sextant 1019
Technology: Raster display **Input:** Keyboard; Light pen **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix data space:** 1,024 X 1,024 **Matrix screen:** 1,024 X 768 **Pixel size:** 4 bits **Color:** supported **Maximum colors:** 4,-096 in palette; 16 displayable **Support equip:** Cables; Software **Software supported:** High-level languages; Business applications; CAD/CAM applications **Units sold:** 100 since 1985 **Cost:** $5,395

☐ Sextant 814
Technology: Raster display **Input:** Keyboard; Light pen **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 14 inches **Matrix data space:** 800 X 600 **Matrix screen:** 800 X 600 **Pixel size:** 4 bits **Color:** supported **Maximum colors:** 4,096 in palette; 16 displayable **Support equip:** Cables; Software **Software supported:** High-level languages; Business applications; CAD/CAM applications **Units sold:** 400 since 1984 **Cost:** $3,-795

☐ Sextant 819
Technology: Raster display **Input:** Keyboard; Light pen **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix data space:** 800 X 600 **Matrix screen:** 800 X 600 **Pixel size:** 4 bits **Color:** supported **Maximum colors:** 4,096 in palette; 16 displayable **Support equip:** Cables; Software **Software supported:** High-level languages; Business applications; CAD/CAM applications **Units sold:** 200 since 1985 **Cost:** $4,-995

TELEVIDEO SYSTEMS, INC.

☐ NetWorkStation
Technology: Raster display; Vector display **Input:** Keyboard; Cursor **Screen size:** 14 inches **Matrix screen:** 640 X 200 or 400 **Introduced:** 1986 **Cost:** $995

TEXAS INSTRUMENTS

☐ Pro-CAD 286
Input: Keyboard; Mouse **Includes:** Plotter or hard copy device **Matrix screen:** 720 X 300 **Color:** supported **Software supported:** CAD/CAM applications **Introduced:** 1986 **Cost:** $9,950-$11,-200

TEXET CORP.

☐ Live Image Publishing System
Technology: Raster display; Vector display **Input:** Keyboard; Cursor; Mouse **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 20 inches **Matrix screen:** 1,100 X 1,400 **Pixel size:** 1 bits **Pts/inch resolution:** 100 **Software supported:** High-level languages; Operating system **Units sold:** 50 since 1984 **Cost:** $70,000

TIME ARTS, INC.

☐ Lumena Graphics System
Technology: Raster display **Input:** Keyboard; Tablet; Stylus **Screen size:** 13; 19 inches **Matrix data space:** 512 X 512 **Matrix screen:** 512 X 480 **Pixel size:** 8 bits **Zoom ratio:** 16:1 **Color:** supported **Maximum colors:** 16.7M in palette; 256 displayable **Software supported:** Operating system **Introduced:** 1984 **Cost:** $2,500-$35,000

☐ Lumena Video Tools
Technology: Raster display **Input:** Keyboard; Tablet; Joystick; Mouse; Stylus; Digitizer **Includes:** Digitizer **Screen size:** 13; 19 inches **Matrix screen:** 512 X 512 **Pixel size:** 8 bits **Zoom ratio:** 16:1 **Color:** supported **Maximum colors:** 256 displayable **Capability:** 3D **Support equip:** Cables; Software; ROM **Introduced:** 1984 **Cost:** $13,000-$22,500

VAXON, INC.

☐ ConCur400
Input: Keyboard; Light pen; Cursor **Matrix data space:** 640 X 400 **Color:** supported **Maximum *colors: 16 displayable*** **Support equip:** Cables **Software supported:** High-level languages; Operating system; Business applications

VECTOR AUTOMATION, INC.

☐ CADMAX-II
Technology: Vector display **Input:** Keyboard; Tablet **Includes:** Plotter or hard copy device **Screen size:** 21 inches **Matrix data space:** 16K X 16K **Matrix screen:** 4,096 X 4,096 **Pts/inch resolution:** 195 **Zoom ratio:** 256:1 **Color:** supported **Maximum colors:** 4,096 in palette **Capability:** 3D **Support equip:** Cables **Software supported:** CAD/CAM applications; 2D drafting/design mechanical, electrical and architectural applications **Units sold:** 229 since 1982 **Cost:** $53,800

VECTRIX CORP.

☐ Pepe
Technology: Raster display **Input:** Keyboard **Screen size:** 19 inches **Matrix data space:** 1,024 X 1,024 **Matrix screen:** 1,024 X 1,024 **Pixel size:** 4, 8 or 12 bits **Color:** supported **Maximum colors:** 16 or 256 displayable; 4,096 or 16.8M in palette **Capability:** 3D **Software supported:** High-level languages; Operating system; CAD/CAM applications **Introduced:** 1985 **Cost:** $2,495-$4,495

☐ VX/PC
Technology: Raster display **Input:** Light pen; Tablet **Screen size:** 13; 19 inches **Matrix data space:** 672 X 480 **Matrix screen:** 672 X 480 **Pixel size:** 9 bits **Zoom ratio:** 1-16 **Color:** supported **Maximum colors:** 16.8M or 4,096 in palette **Capability:** 3D **Software supported:** High-level languages; Operating system; Business applications; Scientific or medical applications; CAD/CAM applications **Units sold:** 2,000 since 1984 **Cost:** $1,995-$2,495

☐ VX128A
Technology: Raster display **Input:** Keyboard; Light pen; Tablet; Mouse **Includes:** Plotter or hard copy device **Screen size:** 13; 19 inches **Matrix data space:** 672 X 480 **Matrix screen:** 672 X 480 **Pixel size:** 3 bits **Color:** supported **Maximum colors:** 8 displayable **Capability:** 3D **Software supported:** High-level languages; Business applications; Scientific or medical applications; CAD/CAM applications; Image processing applications **Units sold:** 350 since 1982 **Cost:** $2,295

☐ VX384A
Technology: Raster display **Input:** Keyboard; Light pen; Tablet **Includes:** Plotter or hard copy device **Screen size:** 13; 19 inches **Matrix data space:** 672 X 480 **Matrix screen:** 672 X 480 **Pixel size:** 9 bits **Color:** supported **Maximum colors:** 512 in palette **Capability:** 3D **Software supported:** High-level languages; Business applications; Scientific or medical applications; CAD/CAM applications; Image processing applications **Units sold:** 450 since 1983 **Cost:** $3,295

VERTICOM, INC.

☐ CD-1
Technology: Raster display **Input:** Keyboard **Screen size:** 13 inches **Matrix screen:** 640 X 480 **Color:** supported **Introduced:** 1985 **Cost:** $995

☐ VG-07
Technology: Tablet or table **Input:** Keyboard; Cursor; Trackball; Tablet; Mouse **Screen size:** 13 inches **Matrix data space:** 4,096 X 4,096 **Matrix screen:** 640 X 480 **Color:** supported **Maximum colors:** 4,096 in palette; 16 displayable **Software supported:** High-level languages; Operating system; Business applications **Introduced:** 1986 **Cost:** $4,495

☐ VG-09
Technology: Tablet or table **Input:** Keyboard; Cursor; Trackball; Tablet; Mouse **Screen size:** 19 inches **Matrix data space:** 4,096 X 4,096 **Matrix screen:** 640 X 480 **Color:** supported **Maximum colors:** 4,096 in palette; 16 displayable **Software supported:** High-level languages; Operating system; CAD/CAM applications **Introduced:** 1986 **Cost:** $6,695

VMI - VERMONT MICROSYSTEMS, INC.

☐ VM-8861 Intelligent Monitor
Technology: Raster display **Input:** Tablet; Mouse **Screen size:** 19 inches **Matrix data space:** 640 X 480 **Matrix screen:** 640 X 480 **Pixel size:** 8 bits **Zoom ratio:** 1:1 **Color:** supported **Maximum colors:** 256K in palette; 256 displayable **Capability:** 3D **Software supported:** High-level languages **Units sold:** 1,200 since 1986 **Cost:** $4,995

WESTWARD TECHNOLOGY, INC.

☐ Model 2215B
Technology: Raster display **Input:** Keyboard; Tablet; Joystick **Screen size:** 15 inches **Matrix data space:** 1,024 X 1,024 **Matrix screen:** 1,024 X 784 **Capability:** 3D **Software supported:** High-level languages; CAD/CAM applications; 2D rotation/translation; 3D rotation/translation **Introduced:** 1985 **Cost:** $3,495

☐ Model 2216
Technology: Raster display **Input:** Keyboard; Joystick; Tablet **Screen size:** 15 inches **Matrix screen:** 640 X 490 **Color:** supported **Maximum colors:** 4,096 in palette; 16 displayable **Capability:** 3D **Software supported:** CAD/CAM applications; 2D rotation/translation; 3D rotation/translation **Introduced:** 1986 **Cost:** $4,995

☐ Model 2219/2219W
Technology: Raster display **Input:** Keyboard; Tablet; Joystick **Screen size:** 19 inches **Matrix data space:** 1,024 X 1,024 **Matrix screen:** 1,024 X 784 **Capability:** 3D **Software supported:** High-level languages; CAD/CAM applications; 2D rotation/translation; 3D rotation/translation; CAE applications **Introduced:** 1985 **Cost:** $6,950-$7,950

☐ Model 3219W
Technology: Raster display; Tablet or table **Input:** Keyboard; Tablet; Joystick **Screen size:** 19 inches **Matrix data space:** 2,048 X 2,048 **Matrix screen:** 2,048 X 1,568 **Capability:** 3D **Software supported:** High-level languages; CAD/CAM applications; 2D rotation/translation; 3D rotation/translation **Introduced:** 1984 **Cost:** $14,950

☐ Model 3220W/3320W
Technology: Raster display; Tablet or table **Input:** Keyboard; Joystick; Tablet **Screen size:** 19 inches **Matrix data space:** 4,096 X 4,096 **Matrix screen:** 1,024 X 784; 2,048 X 1,568 **Pixel size:** 4 or 8 bits **Color:** supported **Maximum colors:** 16M or 4,096 in palette; 256 or 16 displayable **Capability:** 3D **Software supported:** CAD/CAM applications; 2D rotation/translation; 3D rotation/translation **Introduced:** 1984 **Cost:** $13,950-$15,450

WYSE TECHNOLOGY

☐ WY-700
Technology: Raster display **Input:** Keyboard **Screen size:** 15 inches **Matrix data space:** 1,280 X 800 **Matrix screen:** 1,280 X 800 **Pixel size:** 4 bits **Pts/inch resolution:** 120 points/inch **Support equip:** Monitor; Board **Software supported:** High-level languages; Operating system; Business applications; CAD/CAM applications **Units sold:** 500 since 1986 **Cost:** $1,595

XTAR ELECTRONICS, INC.

☐ POLYGONE PG-1000
Technology: Raster display **Input:** Keyboard; Touch screen; Light pen; Cursor; Trackball; Joystick; Thumbwheel; Tablet; Mouse **Matrix data space:** 64K X 16 **Matrix screen:** 640 X 400 **Pixel size:** 4 bits **Color:** supported **Capability:** 3D **Software supported:** High-level languages **Introduced:** 1985 **Cost:** $3,500

IMAGE PROCESSORS

ADS IMAGING SYSTEMS

☐ PIP-4000
Technology: Camera; Video; Windowing **Input:** Keyboard; Cursor; Mouse **Includes:** Digitizer **Matrix data space:** 128 X 128; 2,048 X 2,048 **Matrix screen:** 512 X 512 **Color:** supported **Introduced:** 1986 **Cost:** $8,000-$30,000

BELL & HOWELL SERVICE CO.

☐ Copiscan 2000
Technology: Beltbed; Raster display; Camera **Input:** Keyboard; Mouse **Screen size:** 15 inches **Matrix data space:** 2,048 X 2,048 **Matrix screen:** 1,024 X 1,536; 1,664 X 2,200 **Pts/inch resolution:** 20-400 **Zoom ratio:** 0.5 to 2 **Support equip:** Interface board and drivers **Software supported:** High-level languages **Units sold:** 200 since 1984 **Cost:** $10,000-$20,000

COLORADO VIDEO, INC.

☐ Model 274D
Technology: Raster display **Input:** Host dependent **Matrix screen:** 512 X 480 **Pixel size:** 8 bits **Color:** supported **Support equip:** Interface card **Introduced:** 1982 **Cost:** $7,600

☐ 492 Video Subtractor
Matrix screen: 512 X 240; 512 X 480 **Color:** supported **Support equip:** Interface card **Introduced:** 1984 **Cost:** $6,500-$8,800

CORECO, INC. (THE COMPUTER RESEARCH COMPANY)

☐ oculus 100
Technology: Camera **Input:** Keyboard; Video signal **Matrix data space:** 480 X 512 **Matrix screen:** 200 X 512 **Pixel size:** 1 bits **Color:** supported **Maximum colors:** 256 displayable **Software supported:** High-level languages **Cost:** $995

☐ oculus 150
Technology: Camera; Video **Input:** Keyboard; Video signal **Matrix data space:** 480 X 512 **Color:** supported

☐ oculus 200
Technology: Video **Input:** Keyboard **Matrix data space:** 480 X 512 **Pixel size:** 21 bits **Color:** supported **Maximum colors:** 256 displayable **Software supported:** High-level languages

DATACOPY CORP.

☐ Integrated Imaging System (Models 912, 914, 920)
Technology: Camera **Pixel size:** 8 bits **Color:** supported **Capability:** 3D **Software supported:** High-level languages; Word Image Processing System **Introduced:** 1985 **Cost:** $12,950-$16,950

☐ 50-1 Enhanced Imaging System
Technology: Raster display **Input:** Camera **Screen size:** 15 inches **Matrix data space:** 1,728 X 2,200 **Matrix screen:** 2,846 X 1,728 X 256 **Software supported:** Word Image Processing System **Introduced:** 1983 **Cost:** $25,500

☐ 700 Word Image Processing System
Technology: Flatbed **Matrix data space:** 1,728 X 2,235 **Matrix screen:** 720 X 340; 1,728 X 2,846 **Pixel size:** 1 bits **Pts/inch resolution:** 203 **Software supported:** Word Image Processing System; Character Image Recognition **Introduced:** 1985 **Cost:** $3,950

☐ 730 Word Image Processing System
Technology: Flatbed **Pts/inch resolution:** 300 **Support equip:** Cables; Software **Software supported:** Word Image Processing System; Image Recognition **Units sold:** 1985 **Cost:** $3,950

☐ 800 Integrated Imaging System
Input: Camera **Matrix screen:** 720 X 348; 1,728 X 2,846 **Pixel size:** 8 bits **Pts/inch resolution:** 203 **Software supported:** Word Image Processing System **Introduced:** 1984 **Cost:** $9,945

☐ 90 Integrated Imaging System
Input: Camera **Matrix screen:** 720 X 348; 1,728 X 2,846 **Pixel size:** 8 bits **Capability:** 3D **Software supported:** Word Image Processing System; Character Image Recognition **Introduced:** 1983 **Cost:** $9,945

☐ 900 Integrated Imaging System Model 924
Input: Camera **Includes:** Digitizer **Matrix screen:** 1,728 X 2,-846; 720 X 348 **Pixel size:** 8 bits **Software supported:** Word Image Processing System **Introduced:** 1984 **Cost:** $19,950

DATACUBE

☐ 128 Family
Technology: Camera **Input:** Keyboard **Includes:** Digitizer **Matrix screen:** 384 X 512 **Pixel size:** 8 bits **Color:** supported **Maximum colors:** 256 in palette **Support equip:** Cables; Software **Software supported:** High-level languages **Units sold:** 1,000 since 1984 **Cost:** $2,995

EARTH GUIDE CO.

☐ Pixelcaster Vision System
Technology: Raster display **Input:** Keyboard **Includes:** Plotter or hard copy device **Matrix data space:** 910 X 525 **Matrix screen:** 910 X 525 **Pixel size:** 4 bits **Color:** supported **Capability:** 3D **Software supported:** High-level languages **Units sold:** 80 since 1982 **Cost:** $650-$12,500

GOULD, INC.
Imaging & Graphics Division

☐ FD5000
Technology: Raster display **Input:** Cursor; Trackball; Joystick **Includes:** Digitizer **Screen size:** 9 to 19 inches **Matrix data space:** 1,024 X 1,024 **Matrix screen:** 512 X 512 **Pixel size:** 8 to 32 bits **Pts/inch resolution:** 40 to 100 **Color:** supported **Capability:** 3D **Support equip:** Software **Software supported:** High-level languages; Operating system; Scientific or medical applications; Interactive image processing **Introduced:** 1983 **Cost:** $10,500-$84,000

IMAGING TECHNOLOGY, INC.

☐ PCVisionplus
Technology: Gate arrays **Input:** Video camera **Matrix data space:** 1,024 X 512 **Matrix screen:** 640 X 480 **Color:** supported **Introduced:** 1986 **Cost:** $1,995

☐ PCVisionplus Frame Grabber
Technology: Raster display **Input:** Standard video camera **Matrix data space:** 1,024 X 512 **Matrix screen:** 640 or 512 X 480 **Color:** supported **Introduced:** 1986 **Cost:** $1,995

☐ Series 100 Single Board Real-time Image Processor
Technology: CMOS Gate array **Matrix data space:** 1,024 X 1,-024 or 512 **Matrix screen:** 640 or 512 X 512 **Pixel size:** 6; 8; 12 bits **Zoom ratio:** 2X; 4X; 8X **Color:** supported **Support equip:** Software **Software supported:** Inspection; Graphics; Paint systems; Medical imaging; Research and development applications **Introduced:** 1986 **Cost:** $3,995-$4,495

☐ Series 151 Image Processor
Technology: Camera; Gate arrays **Includes:** Digitizer **Matrix data space:** 1,024 X 512; 640 X 512 **Matrix screen:** 512 X 512 **Pixel size:** 8; 16 bits **Zoom ratio:** 16:1 **Color:** supported **Software supported:** Operating system; Scientific or medical applications; Machine vision, medical imaging, research and development applications **Introduced:** 1986 **Cost:** $11,495

KONTRON ELECTRONICS

☐ I.P.S.
Technology: Raster display **Input:** Keyboard; Tablet; Video **Includes:** Digitizer **Screen size:** 12; 13 inches **Matrix data space:** 4,096 X 4,096; 64K X 64K **Matrix screen:** 512 X 256; 780 X 540 **Pixel size:** 8 bits **Zoom ratio:** 1:2:4 **Color:** supported **Maximum colors:** 16.7M in palette **Capability:** 3D **Software supported:** High-level languages; Operating system **Units sold:** 600 since 1980 **Cost:** $50,000-$100,000

MATROX ELECTRONIC SYSTEMS, LTD.

☐ PIP-512
Technology: Raster display **Input:** Cursor **Matrix data space:** 1,024 X 1,024 **Matrix screen:** 512 X 512 **Pixel size:** 8 bits **Color:** supported **Maximum colors:** 16.7M in palette; 256 displayable **Support equip:** Software **Introduced:** 1985 **Cost:** $1,995

MEGAVISION, INC.

☐ 1024-XM
Technology: Raster display; Camera **Input:** Keyboard; Button device; Cursor; Trackball; Joystick; Tablet; Mouse **Includes:** Plotter or hard copy device; Digitizer **Screen size:** 19 inches **Matrix data space:** 4K X 4K **Matrix screen:** 1,024 X 1,024 **Pixel size:** 32 bits **Pts/inch resolution:** 100 **Zoom ratio:** 16:1 **Color:** supported **Maximum colors:** 16M in palette; 16M displayable **Support equip:** Cables; Software; I/O Board **Software supported:** High-level languages; Operating system; Scientific or medical applications **Units sold:** 20 since 1984 **Cost:** $40,000-$70,000

RECOGNITION CONCEPTS, INC.

☐ Trapix
Technology: Raster display **Input:** Keyboard; Cursor; Trackball; Joystick; Camera; VCR **Includes:** Digitizer **Screen size:** 13; 19 inches **Matrix data space:** 2K X 2K **Matrix screen:** 256 X 256; 512 X 512; 1,024 X 1,024 **Pixel size:** 8 to 16 bits **Zoom ratio:** 8:1 **Color:** supported **Maximum colors:** 16M in palette **Support equip:** Cables; Software; Interface card **Software supported:** High-level languages; Scientific or medical applications **Units sold:** 250 since 1982 **Cost:** $16,900-$50,000

UNITRON IMAGETEK SYSTEMS
(division of Unitron, Inc.)

☐ System IA 1000
Input: TV camera **Screen size:** 9 inches **Software supported:** Operating system **Cost:** $14,800

PLOTTERS/HARD-COPY DEVICES

ADVANCED COLOR TECHNOLOGY, INC.

☐ ACT II Color Ink Jet Printer
Technology: Ink jet **Zoom ratio:** 8:1 **Plot speed:** 90 seconds/page **Resolution:** 85 X 140 dots/inch **Accuracy:** (±) 0.004 inch **Repeatability:** (±) 0.004 inch **Color:** supported **Maximum colors:** 125 in palette **Capability:** 3D **Software supported:** CAD/CAE applications **Introduced:** 1983 **Cost:** $6,150

☐ ACT IV (Chromajet 4000)
Technology: Drum; Tablet or table **Input:** Tablet **Resolution:** 60-250 dots/inch **Repeatability:** 0.01 inch **Color:** supported **Introduced:** 1986 **Cost:** $5,995

ALLEN DATAGRAPH

☐ 700 Series
Technology: Flatbed **Input:** Keyboard **Plotting method:** Line **Plot speed:** 9 inches/second **Resolution:** 0.005 inch **Pens:** 1 Fibertip **Firmware avail.:** Character Set **Units sold:** 1,000 since 1983 **Cost:** $1,195-$1,595

☐ 900 Series
Technology: Flatbed **Input:** Keyboard **Plotting method:** Line **Plot speed:** 9 inches/second **Resolution:** 0.005 inch **Units sold:** 1,000 since 1984 **Cost:** $1,595-$1,895

ALPHA MERICS CORP.

☐ Alphaplot I
Technology: Flatbed **Input:** Keypad **Plotting method:** Internal vector generation **Plot speed:** 10 inches/sec **Resolution:** 0.001 inch **Accuracy:** (±) 0.001 inch **Repeatability:** 0.002 inch **Pens:** 6 Liquid ink; Fibertip; Felt-tip; Roller ball **Firmware avail.:** Character Set; Curve; Scaling; Window; Circle **Color:** supported **Software supported:** High-level languages **Units sold:** 2,000 since 1979 **Cost:** $4,590

☐ Alphaplot II
Technology: Flatbed **Input:** Keypad **Plotting method:** Internal vector generation **Plot speed:** 10 inches/sec **Resolution:** 0.001 inch **Accuracy:** (±) 0.001 inch **Repeatability:** 0.002 inch **Pens:** 6 Liquid ink; Fibertip; Felt-tip **Firmware avail.:** Character Set; Curve; Scaling; Window **Color:** supported **Units sold:** 2,000 since 1983 **Cost:** $5,990

☐ Complete (Plotter/Digitizer System)
Technology: Flatbed **Input:** Joystick **Plotting method:** Internal vector generation **Plot speed:** 10 inches/sec **Resolution:** 0.001 inch **Accuracy:** (±) 0.003 inch **Repeatability:** 0.001 inch **Pens:** 6 Fibertip; Roller ball; Wet ink **Firmware avail.:** Character Set; Curve; Scaling; Chart mode **Color:** supported **Software supported:** High-level languages **Units sold:** 400 since 1984 **Cost:** $6,-395

☐ Datascribe 5 Drafting System
Technology: Flatbed **Input:** Keyboard **Plotting method:** Line **Plot speed:** 8 inches/sec **Resolution:** 0.00125 inch **Accuracy:** (±) 0.001 inch **Repeatability:** (±) 0.00125 inch **Pens:** Wet ink; Felt-tip; Fibertip **Firmware avail.:** Character Set **Color:** supported **Software supported:** CAD/CAM applications **Units sold:** 3,000 since 1984 **Cost:** $8,350

☐ Datascribe 5D
Technology: Flatbed **Input:** Keyboard **Plotting method:** Line **Plot speed:** 8 inches/sec **Resolution:** 0.00125 inch **Accuracy:** (±) 0.00125 inch **Repeatability:** (±) 0.00125 inch **Pens:** Wet ink; Felt-tip; Fibertip **Firmware avail.:** Character Set **Color:** supported **Software supported:** CAD/CAM applications **Units sold:** 500 since 1984 **Cost:** $9,450

ARISTO GRAPHIC CORP.

☐ ARISTOMAT 100
Technology: Flatbed **Input:** Keyboard **Plotting method:** Line **Plot speed:** 2.8 inches/sec **Resolution:** 0.0002 inch **Accuracy:** (±) 0.0008 inch **Repeatability:** (±) 0.0004 inch **Pens:** 1 Scribe; Cutting blade; Rapidograph; Ballpoint; Pentel **Firmware avail.:** Character Set; Scaling **Software supported:** CAD/CAM applications; Numeric control applications **Units sold:** 75 since 1975 **Cost:** $60,000-$85,000

BESELER CORP.

☐ 4500 Series Film Recorder
Technology: Raster display **Input:** Camera **Color:** supported **Capability:** 3D **Units sold:** 400 since 1984 **Cost:** $2,995-$3,995

C. ITOH ELECTRONICS, INC.

☐ CIE-2400
Technology: Electrostatic **Plotting method:** Point **Plot speed:** 1 inch/second **Resolution:** 400 dots/inch **Capability:** 3D **Software supported:** Scientific or medical applications; CAD/CAM applications **Introduced:** 1984 **Cost:** $55,000

☐ CIE-3600
Technology: Electrostatic **Plotting method:** Point **Plot speed:** 1 inch/second **Resolution:** 400 dots/inch **Capability:** 3D **Software supported:** Scientific or medical applications; CAD/CAM applications **Introduced:** 1984 **Cost:** $65,000

CALCOMP
(subsidiary of Sanders Associates, Inc.)

☐ Model 1042 GT
Technology: Drum **Plotting method:** Line **Plot speed:** 14 inches/sec **Resolution:** 0.001 inch **Accuracy:** 0.01 inch **Repeatability:** 0.005 inch **Pens:** Disposable liquid ink; Fibertip; Liquid ballpoint; Plastic tip; Refillable liquid ink **Steps/inch:** 1,016 **Firmware avail.:** Character Set; Scaling; Rotation; Windowing; Mirroring **Color:** supported **Support equip:** Software **Introduced:** 1985

☐ Model 1043 GT
Technology: Drum **Plotting method:** Line **Plot speed:** 14 inches/sec **Resolution:** 0.001 inch **Accuracy:** 0.01 inch **Repeatability:** 0.005 inch **Pens:** Disposable liquid ink; Liquid ballpoint; Fibertip; Plastic tip; Refillable liquid ink **Steps/inch:** 1,016 **Firmware avail.:** Character Set; Scaling; Rotation; Windowing; Mirroring **Support equip:** Software **Introduced:** 1985 **Cost:** $8,-905

☐ Model 1044 GT
Technology: Drum **Resolution:** 0.001 inch **Accuracy:** 0.01 inch **Repeatability:** 0.005 inch **Pens:** Disposal liquid ink; Liquid ballpoint; Fibertip; Plastic tip; Refillable liquid ink **Steps/inch:** 1,-016 **Firmware avail.:** Scaling; Multiple character sets; Rotation; Windowing; Mirroring **Color:** supported **Support equip:** Software **Introduced:** 1985 **Cost:** $13,900

☐ Model 1077
Technology: Drum; Beltbed **Plotting method:** Line **Plot speed:** 37 inches/sec **Resolution:** 0.0005 inch **Accuracy:** (±) 0.01 inch **Repeatability:** (±) 0.005 inch **Pens:** 4 Pressurized ballpoint; Conventional liquid ink; Refillable liquid ink; Plastic tip; Ceramic tip; Fibertip; Liquid ballpoint **Steps/inch:** 2,032 **Firmware avail.:** Character Set; Curve; Scaling; Rotation; Mirroring; Deskewing **Color:** supported **Software supported:** Business applications; Scientific or medical applications; Drafting applications **Introduced:** 1982 **Cost:** $24,800

☐ Samurai
Technology: Digital film recorder; 35mm slides **Input:** Keyboard **Includes:** Plotter or hard copy device; Digitizer **Pts/inch resolution:** 4,096 X 4,096 **Color:** supported **Maximum colors:** 16M in palette **Capability:** 3D **Support equip:** Cables; Software; Interface board **Software supported:** High-level languages **Introduced:** 1985 **Cost:** $11,950

☐ 1040GT Series
Technology: Drum **Input:** Joystick **Plotting method:** Line **Plot speed:** 14 inches/sec **Resolution:** 0.001 inches **Accuracy:** (±)0.1 inch **Repeatability:** 0.005 inch **Pens:** 8 Ballpoint; Liquid ink; Nylon tip; Ceramic tip **Steps/inch:** 1,016 **Firmware avail.:** Character Set; Scaling; Rotation; Windowing; Mirroring; Deskewing **Color:** supported **Support equip:** Software **Software supported:** Plot Manager **Introduced:** 1985 **Cost:** $8,905-$13,900

CELTIC TECHNOLOGY, INC.

☐ VFR 2000
Technology: Camera; 35mm film **Resolution:** 800 lines per in. **Color:** supported **Capability:** 3D **Support equip:** Cables **Units sold:** 2,000 since 1983 **Cost:** $2,795

COLORPIX, INC.

☐ TC1040
Technology: Ink-jet **Plotting method:** Point **Resolution:** 85 or 120 dots/inch (selectable) **Pens:** 1 Disposable ink cartridge **Firmware avail.:** Character Set **Color:** supported **Software supported:** Business applications; Scientific or medical applications; PCB layout; Engineering; Presentation graphics applications **Introduced:** 1983 **Cost:** $5,995

COMPUTER TALK, INC.

☐ Model 500
Technology: Flatbed **Input:** Keyboard **Includes:** Digitizer **Plotting method:** Line **Plot speed:** 20 inches/sec **Resolution:** 2,000 points/inch **Accuracy:** 0.01 inch **Repeatability:** 0.0005 inch **Pens:** 4 Ballpoint; Cutter; Drill; Ink **Firmware avail.:** Character Set; Curve; Scaling **Color:** supported **Software supported:** High-level languages; Scientific or medical applications; CAD/CAM applications; Engineering applications **Units sold:** 3 since 1982 **Cost:** $42,500

COMREX INTERNATIONAL, INC.

☐ CR-1810 Plotter
Technology: Flatbed **Plotting method:** Line **Accuracy:** 0.004 inch **Pens:** 1 Fibertip **Color:** supported **Cost:** $695

DATA TECHNOLOGY, INC.

☐ DP 4060
Technology: Flatbed **Input:** Cursor **Includes:** Digitizer **Resolution:** 0.001 inch **Accuracy:** (±) 0.001 inch **Repeatability:** 0.001 inch **Pens:** 2 Fibertip; Pencil; Pressurized ballpoint; Scribe; Liquid ink **Support equip:** Cables **Software supported:** CAD/CAM applications; Geometrics, Drafting; Mapping applications **Units sold:** 50 since 1980 **Cost:** $39,500

☐ DT 3454
Technology: Flatbed **Input:** Console **Plotting method:** Line **Plot speed:** 16 inches/sec. **Resolution:** 0.0025 inch **Accuracy:** (±) 0.004 inch **Repeatability:** (±) 0.0025 inch **Pens:** 2 Liquid ink; Pressurized ballpoint **Support equip:** Cables **Software supported:** CAD/CAM applications **Units sold:** 1,000 since 1970 **Cost:** $25,000

☐ DT 5544
Technology: Flatbed **Resolution:** 0.002 inches **Accuracy:** 0.002 inch **Repeatability:** 0.002 inch **Pens:** 3 Fibertip; Scribe; Pencil; Pressurized ballpoint; Liquid ink **Support equip:** Cables **Units sold:** 3 since 1986 **Cost:** $40,000

DATAPORT/CS

☐ MP 101
Technology: Flatbed **Resolution:** 0.00008 inch **Pens:** 3 Fibertip; Wet ink; Ballpoint **Firmware avail.:** Character Set; Curve; Scaling **Color:** supported **Support equip:** Cables; Software; ROM **Units sold:** 5,800 since 1985 **Cost:** $395

DUNN INSTRUMENTS, INC.
(division of DBA Systems, Inc.)

☐ MicroColor
Technology: Camera **Input:** Video signal **Plotting method:** Raster **Resolution:** 1,024 X 1,280 **Color:** supported **Support equip:** Cables **Software supported:** High-level languages **Units sold:** 200 since 1984 **Cost:** $3,500-$4,500

☐ MultiColor
Technology: Camera **Input:** Video signal **Plotting method:** Raster **Resolution:** 1,400 lines **Color:** supported **Software supported:** CAD/CAM applications **Units sold:** 200 since 1984 **Cost:** $4,500-$9,000

ENTER COMPUTER, INC.

☐ SP1000
Technology: Flatbed **Plotting method:** Line **Plot speed:** 16 inches/sec. **Resolution:** 0.001 inches **Accuracy:** 0.004 inch **Repeatability:** 0.004 inch **Pens:** 1 Fibertip; Rollerball; Liquid ink **Color:** supported **Software supported:** High-level languages **Introduced:** 1986 **Cost:** $3,995

☐ SP1200
Technology: Flatbed **Plotting method:** Line **Plot speed:** 10 inches/sec **Resolution:** 0.0025 inches **Accuracy:** 0.005 inch **Repeatability:** 0.005 inch **Pens:** 1 Fibertip; Rollerball; Liquid ink **Color:** supported **Software supported:** High-level languages **Units sold:** 1,000 since 1985 **Cost:** $4,995

☐ SP600
Technology: Flatbed **Plotting method:** Line **Plot speed:** 14 inches/sec **Resolution:** 0.004 inch **Accuracy:** 0.008 inch **Repeatability:** 0.004 inch **Pens:** 6 Rapidograph-type; Fibertip **Firmware avail.:** Character Set **Color:** supported **Maximum colors:** 10 displayable **Software supported:** High-level languages **Units sold:** 6,000 since 1984 **Cost:** $1,095

☐ Sweet-P 100
Technology: Flatbed **Plotting method:** Line **Plot speed:** 6 inches/sec **Resolution:** 0.004 inch **Accuracy:** (±) 0.004 inch **Repeatability:** (±) 0.004 inch **Pens:** 1 Fibertip **Firmware avail.:** SPGL **Color:** supported **Maximum colors:** 10 displayable **Support equip:** Cables; Software **Software supported:** Business applications; Engineering applications **Units sold:** 10,000 since 1982 **Cost:** $395

FACIT, INC.

☐ Model 4550
Technology: Hybrid **Plotting method:** Vector **Plot speed:** 6 inches/sec **Resolution:** (±) 0.004 inch **Repeatability:** 0.008 inch **Pens:** 6 Ballpoint; Fibertip; Ceramic tip **Color:** supported **Maximum colors:** 12 in palette; 6 displayable **Capability:** 3D **Support equip:** Cables; Software **Software supported:** Business applications; CAD/CAE; Architectural applications **Introduced:** 1985 **Cost:** $795

☐ Model 4551
Technology: Hybrid **Plotting method:** Vector **Plot speed:** 8 inches/sec **Resolution:** (±) 0.004 inch **Repeatability:** 0.008 inch **Pens:** 6 Ballpoint; Fibertip; Ceramic tip **Color:** supported **Maximum colors:** 12 in palette; 6 displayable **Capability:** 3D **Support equip:** Cables; Software **Software supported:** Business applications; CAD/CAE; Engineering; Architectural applications **Introduced:** 1985 **Cost:** $995

FOCUS GRAPHICS, INC.

☐ VideoSlide35
Technology: Photographics, 35mm; Polaroid SX-70 **Input:** Video **Resolution:** 1,024 X 768 **Color:** supported **Capability:** 3D **Support equip:** Cables **Units sold:** 1,500 since 1982 **Cost:** $3,-299-$3,899

GOULD, INC.
Recording Systems Division

☐ Colorwriter Model 6120
Technology: Flatbed; Electrostatic **Input:** Keyboard **Plotting method:** Line **Plot speed:** 7.8 inches/sec **Resolution:** 0.002 inch **Accuracy:** 0.002 inch **Repeatability:** 0.008 inch **Pens:** 7 Fibertip; Roller ball; Ceramic tip **Steps/inch:** 0.002 **Firmware avail.:** Character Set **Color:** supported **Support equip:** Cables **Software supported:** Business applications; CAD/CAM applications; Scientific or medical applications; Engineering applications **Introduced:** 1985 **Cost:** $995

☐ Colorwriter Model 6310
Technology: Flatbed; Electrostatic **Input:** Keyboard **Plotting method:** Line **Plot speed:** 7.8 inches/sec **Resolution:** 0.001 inch **Accuracy:** 0.001 inch **Repeatability:** 0.002 inch **Pens:** 7 Fibertip; Roller ball; Drafting **Steps/inch:** 0.001 **Firmware avail.:** Character Set **Color:** supported **Support equip:** Cables **Software supported:** Business applications; CAD/CAM applications; Scientific or medical applications; Engineering applications **Introduced:** 1984 **Cost:** $1,695

☐ Colorwriter Model 6320
Technology: Flatbed; Electrostatic **Input:** Keyboard **Plotting method:** Line **Plot speed:** 15.75 inches/sec **Resolution:** 0.001 inch **Accuracy:** 0.001 inch **Repeatability:** 0.002 inch **Pens:** 10 Fibertip; Roller ball; Drafting **Steps/inch:** 0.001 **Firmware avail.:** Character Set **Color:** supported **Support equip:** Cables **Software supported:** Business applications; CAD/CAM applications; Scientific or medical applications; Engineering applications **Introduced:** 1984 **Cost:** $1,895

HEWLETT-PACKARD CO.

☐ Color Pro
Technology: Flatbed **Plot speed:** 15.7 inches/sec **Resolution:** 0.001 in. **Accuracy:** 0.004 inch **Repeatability:** 0.004 inch **Pens:** 8 Fibertip **Color:** supported **Cost:** $1,295

☐ HP 7470A
Technology: Microgrip vector **Plotting method:** Line **Resolution:** 0.001 inch **Repeatability:** 0.004 inch **Pens:** 2 Fibertip **Color:** supported **Software supported:** Business applications; Scientific or medical applications **Introduced:** 1982 **Cost:** $1,-095

☐ HP 7475A
Technology: Microgrip vector **Plotting method:** Line **Resolution:** 0.001 inch **Repeatability:** 0.004 inch **Pens:** 6 Fibertip; Liquid ink **Color:** supported **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications **Introduced:** 1983 **Cost:** $1,895

CROSSPOINT SYSTEMS, INC.
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Eugene, OR 97402
(503) 485-4254

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☐ HP 7550A

Technology: Microgrip vector Plotting method: Line Resolution: 0.001 inch Repeatability: 0.004 inch Pens: 8 Fibertip; Rollerball; Liquid ink Color: supported Software supported: Business applications; Scientific or medical applications; CAD/CAM applications Introduced: 1984 Cost: $3,900

HOUSTON INSTRUMENT
(division of AMETEK, Inc.)

☐ DMP-29

Technology: Flatbed Input: Keyboard; Tablet Plotting method: Line Plot speed: 1 to 22 inches/sec Resolution: 0.001; 0.005 inch Accuracy: 0.008 inch Repeatability: (±) 0.004 inch Pens: 8 Drafting; Fibertip; Ballpoint; Hard-nib Firmware avail.: Character Set Color: supported Software supported: Business applications; CAD/CAM applications Introduced: 1982 Cost: $2,295

☐ DMP-29-3

Technology: Flatbed Input: Keyboard; Tablet Plotting method: Line Plot speed: 22 inches/sec Resolution: 0.005 inch Accuracy: 0.008 inch Repeatability: (±) 0.004 inch Pens: Fiber-tip; Drafting Steps/inch: 200 Firmware avail.: Character Set Color: supported Introduced: 1983 Cost: $2,790

☐ DMP-40

Technology: Grit-wheel Input: Keyboard; Tablet Plotting method: Line Plot speed: 4.2 inches/sec Resolution: 0.005 inch Accuracy: 0.005 inch Repeatability: (±) 0.005 inch Pens: 1 Hard-nib; Ballpoint; Film ink Firmware avail.: Character Set Color: supported Software supported: Business applications; CAD/CAM applications Introduced: 1982 Cost: $1,195

☐ DMP-41/42

Technology: Grit-wheel Input: Keyboard; Tablet Plotting method: Line Plot speed: 4.2 inches/sec Resolution: 0.005 inch Accuracy: (±) 0.35 inch Repeatability: (±) 0.005 inch Pens: 1 Hard-nib; Ballpoint; Film ink Firmware avail.: Character Set Color: supported Software supported: CAD/CAM applications Introduced: 1983 Cost: $3,295

☐ DMP-51/52

Technology: Grit-wheel Input: Keyboard; Tablet Plotting method: Line Plot speed: 22 inches/sec Resolution: 0.001 inch Accuracy: 0.01 inch Repeatability: (±) 0.002 inch Pens: 1 Drafting Steps/inch: 1,000 Firmware avail.: Character Set; Curve; Scaling; Windowing Color: supported Software supported: CAD/CAM applications Introduced: 1984 Cost: $4,995

☐ DMP-51/52 MP

Technology: Grit-wheel Input: Keyboard; Tablet Plotting method: Line Plot speed: 22 inches/sec Resolution: 0.001 inch Accuracy: 0.01 inch Repeatability: (±) 0.002 inch Pens: 14 Drafting; Hard-nib; Tungsten-tip; Stainless steel Steps/inch: 1,000 Firmware avail.: Character Set; Curve; Scaling; Windowing Color: supported Software supported: CAD/CAM applications Introduced: 1984 Cost: $6,495

☐ DMP-56

Technology: Grit-wheel Input: Keyboard; Tablet Plotting method: Line Plot speed: 17 inches/sec. Resolution: 0.001 inch Repeatability: (±)0.002 inch Pens: 1 Stainless steel; Tungsten tip; Water-based hard-nib Color: supported Software supported: CAD/CAM applications; Business applications; Engineering and architecture applications Introduced: 1986 Cost: $5,995

☐ PC Plotter Model 595

Technology: Grit-wheel Input: Keyboard; Tablet Plotting method: Line Plot speed: 4.2 inches/sec Resolution: 0.004 inch Repeatability: (±) 0.004 inch Pens: 4 Hard-nib Firmware avail.: Character Set; Curve; Scaling Color: supported Software supported: Business applications; CAD/CAM applications Introduced: 1984 Cost: $699

☐ PC Plotter Model 695

Technology: Grit-wheel Input: Keyboard; Tablet Plotting method: Line Plot speed: 4.2 inches/sec Resolution: 0.004 inch Repeatability: (±) 0.004 inch Pens: 4 Hard-nib Firmware avail.: Character Set; Curve; Scaling Color: supported Software supported: Business applications; CAD/CAM applications Introduced: 1984 Cost: $799

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Model 6180

Technology: Flatbed Pens: 8 Color: supported Software supported: Scientific or medical applications Introduced: 1986 Cost: $1,285

☐ Model 7372

Technology: Flatbed Input: Keyboard Pens: 6 Fibertip Color: supported Software supported: Business applications; CAD/CAM applications Introduced: 1984 Cost: $1,900

☐ 7375 Model 2

Technology: Flatbed Input: Joystick Resolution: 0.00012 inch Repeatability: 0.004 inch Pens: 8 Fibertip; Roller ball; Liquid ink; Drafting Color: supported Software supported: CAD/CAM applications Introduced: 1985 Cost: $17,200; Lease (mo.) — $1,600

IOLINE CORP.

☐ LP3700

Technology: Drum; Vector display Input: Keyboard Plotting method: Line Plot speed: 10 inches/sec. Resolution: 0.0025 inch Repeatability: 0.0025 inch Pens: Liquid ink; Fibertip; Roller ball Steps/inch: 0.0025 Firmware avail.: Character Set; Curve; Scaling Color: supported Support equip: Cables; ROM Software supported: CAD/CAM applications; CAE applications Units sold: 2,000 since 1985 Cost: $4,995

MANAGEMENT GRAPHICS, INC.

☐ TTS Plus

Technology: 35mm slides Input: Keyboard; Tablet Resolution: 1,000 points/inch Color: supported Maximum colors: 16M in palette; 256 displayable Capability: 3D Support equip: Software Introduced: 1984 Cost: $79,000

MATRIX INSTRUMENTS, INC.

☐ Model 3000

Technology: Camera; 35mm slides; 4 X 5, 8 X 10 format Input: Video Color: supported Capability: 3D Support equip: Cables Software supported: Operating system Introduced: 1980 Cost: $9,865-$10,865

☐ PCR

Technology: Camera; 35mm slides Color: supported Maximum colors: 16M in palette Support equip: Cables; Software; Interface card Software supported: Operating system Introduced: 1984 Cost: $11,795

☐ QCR-D4/2

Technology: Camera; 35mm slides; 4 X 5, 8 X 10 format Color: supported Maximum colors: 16M in palette Support equip: Cables; Software; Interface card Software supported: Operating system Introduced: 1982 Cost: $22,800

MITSUBISHI INTERNATIONAL CORP.

☐ CHC-65

Technology: Thermal transfer Resolution: 8 dot/mm Color: supported Introduced: 1986 Cost: $8,990

MUTOH AMERICA, INC.
(subsidiary of Mutoh Industries, Ltd.)

☐ IP-100 Desktop Plotter

Technology: Flatbed; Electrostatic Resolution: 0.025mm Repeatability: 0.0004 inch Pens: 8 Ink; Fibertip; Ballpoint; Ceramic-tip Steps/inch: 0.001 Units sold: 2,000 since 1984

NICOLET COMPUTER GRAPHICS DIVISION

☐ ZETA Sprint

Technology: Flatbed Input: Keyboard Plotting method: Line Plot speed: 14 inches/sec Resolution: 0.004 inch Accuracy: 0.008-0.004 inch Repeatability: 0.004 inch Pens: Fibertip Color: supported Introduced: 1984 Cost: $995

☐ ZETA 5400

Technology: Drum Input: Keyboard Plotting method: Line Plot speed: 35 inches/sec Resolution: 0.00049 inch Accuracy: (±) 0.002 inch Repeatability: (±) 0.002 inch Pens: 4 Ballpoint; Liquid ink; Liquid roller; Nylon-tip Steps/inch: 2,000 Firmware avail.: Character Set; Curve; Scaling Color: supported Software supported: High-level languages Introduced: 1980 Cost: $41,900; Lease (mo.) —$2,514

☐ ZETA 8

Technology: Drum Input: Keyboard Plotting method: Line Plot speed: 25 inches/sec Resolution: 0.001 inch Accuracy: (±) 0.002 inch Repeatability: (±) 0.001 inch Pens: 8 Liquid roller; Nylon-tip; Ballpoint; Liquid ink Steps/inch: 1,000 Firmware avail.: Character Set; Curve; Scaling Color: supported Software supported: High-level languages Introduced: 1982 Cost: $5,950

☐ ZETA 824

Technology: Drum Input: Keyboard Plotting method: Line Plot speed: 25 inches/sec Resolution: 0.001 inch Accuracy: (±) 0.002 inch Repeatability: (±) 0.004 inch Pens: 8 Liquid roller; Nylon-tip; Ballpoint; 4 Liquid ink Steps/inch: 1,000 Firmware avail.: Curve; Scaling; Plug-in character sets Color: supported Software supported: High-level languages Introduced: 1983 Cost: $8,900

☐ ZETA 824CS

Technology: Drum Input: Keyboard Plotting method: Line Plot speed: 25 inches/sec Resolution: 0.001 inch Accuracy: (±) 0.010 inch Repeatability: (±) 0.001 inch Pens: 8 Liquid roller; Nylon-tip; Ballpoint; 4 Liquid ink Steps/inch: 1,000 Firmware avail.: Curve; Scaling; Plug-in character sets Color: supported Software supported: High-level languages Introduced: 1985 Cost: $9,900

☐ ZETA 836

Technology: Drum Input: Keyboard Plotting method: Line Plot speed: 25 inches/sec Resolution: 0.001 inch Accuracy: (±) 0.010 inch Repeatability: (±) 0.001 inch Pens: 8 Liquid roller; Nylon-tip; Ballpoint; 4 Liquid ink Steps/inch: 1,000 Firmware avail.: Curve; Scaling; Plug-in character sets Color: supported Software supported: High-level languages Introduced: 1984 Cost: $11,900

☐ ZETA 836CS

Technology: Drum Input: Keyboard Plotting method: Line Plot speed: 25 inches/sec Resolution: 0.001 inch Accuracy: (±) 0.010 inch Repeatability: (±) 0.001 inch Pens: 8 Liquid roller; Nylon-tip; Ballpoint; 4 Liquid ink Steps/inch: 1,000 Firmware avail.: Curve; Scaling; Plug-in character sets Color: supported Software supported: High-level languages Introduced: 1985 Cost: $12,900

☐ ZETA 887

Technology: Drum Input: Keyboard Plotting method: Line Plot speed: 25 inches/sec Resolution: 0.001 inch Accuracy: (±) 0.002 inch Repeatability: (±) 0.001 inch Pens: 8 Liquid roller; Nylon-tip; Ballpoint; 4 Liquid ink Steps/inch: 1,000 Firmware avail.: Scaling; Plug-in character set Color: supported Maximum colors: 8 displayable Software supported: High-level languages Introduced: 1983 Cost: $7,950

NUMONICS

☐ Model 5412

Technology: Low inertia; Embossed roller Plotting method: Line Plot speed: 5-6 inches/sec Resolution: (Programmable) 0.005; (Transport) 0.0025 inch Accuracy: (±) 0.005 inch Pens: Ballpoint; Fibertip; Liquid ink; Ceramic Firmware avail.: Shape tables; Emulators Software supported: Operating system Units sold: 290 since 1982 Cost: $1,295

☐ Model 5424
Technology: Low inertia; Embossed roller **Plotting method:** Line **Plot speed:** 5-6 inches/sec **Resolution:** (Programmable) 0.005; (Transport) 0.0025 inch **Pens:** Ballpoint; Fibertip; Liquid ink; Ceramic **Steps/inch:** 0.0025 **Firmware avail.:** Shape tables; Emulators **Software supported:** Operating system **Units sold:** 282 since 1983 **Cost:** $2,975

☐ Model 5624
Technology: Low inertia; Embossed roller **Plotting method:** Line **Plot speed:** 9.8 inches/sec **Resolution:** 0.004 inch **Repeatability:** 0.008 inch **Pens:** Fibertip; Ballpoint; Ceramic; Liquid ink **Steps/inch:** 0.004 **Firmware avail.:** Emulator **Software supported:** Operating system **Units sold:** 104 since 1984 **Cost:** $6,000

☐ Model 5624R
Technology: Flatbed **Plotting method:** Line **Plot speed:** 13.75 inches/sec **Resolution:** 0.004 inch **Accuracy:** 0.008 inch **Pens:** Fibertip; Ballpoint; Liquid ink; Ceramic **Firmware avail.:** Character Set; Curve **Software supported:** Operating system **Introduced:** 1985 **Cost:** $8,000

POLAROID CORP.

☐ Palette
Technology: CRT image recorder; 35mm slides; Reflective print camera **Input:** Keyboard **Resolution:** 920 pixels X 700 lines **Accuracy:** 0.015 inch **Repeatability:** 0.0005 inch **Color:** supported **Maximum colors:** 72 displayable **Capability:** 3D **Support equip:** Cables; Software **Software supported:** Business applications; CAD/CAM applications **Introduced:** 1983 **Cost:** $1,999

☐ VideoPrinter Model 48
Technology: CRT image recorder; 35mm; 4 X 5 or 8 X 10 inch camera **Input:** Display **Resolution:** 1,400 X 1,024 matrix **Accuracy:** 0.015 inch **Repeatability:** 0.0005 inch **Color:** supported **Maximum colors:** 256 displayable **Capability:** 3D **Software supported:** Business applications; CAD/CAM applications; Image processing applications **Introduced:** 1985 **Cost:** $6,800

☐ VideoPrinter Model 8
Technology: CRT image recorder; 8 X 10 film system **Input:** Display **Resolution:** 1,280 X 1,024 matrix **Accuracy:** 0.015 inch **Repeatability:** 0.0005 inch **Color:** supported **Maximum colors:** 256 displayable **Capability:** 3D **Software supported:** Business applications; CAD/CAM applications; Image processing applications **Introduced:** 1983 **Cost:** $4,699

PRINTRONIX, INC.

☐ MVP
Technology: Impact matrix **Input:** Keyboard **Plotting method:** Point **Resolution:** 100 X 96; 60 X 72; 50 X 48 matrix **Accuracy:** (±) 0.005 inch **Repeatability:** (±) 0.005 inch **Firmware avail.:** Character Set **Software supported:** Business applications **Introduced:** 1982 **Cost:** $3,745

☐ 4160 Printer/Plotter
Technology: Impact matrix **Input:** Keyboard **Plotting method:** Point **Plot speed:** 13.6 inches/min **Resolution:** 160 X 168 dots/inch **Accuracy:** 0.003 inch **Software supported:** Business applications; Scientific or medical applications; CAD/CAM applications; Engineering; Bar code generation applications **Units sold:** 5,000 since 1983 **Cost:** $5,380

PROTOCAD

☐ CAD/Magic 3000
Input: Keyboard **Accuracy:** (±)0.003 inch **Repeatability:** 0.008 inch **Pens:** Resist ink **Cost:** $39,500

QUADRAM
(subsidiary of Intelligent Systems Corp.)

☐ Quadjet
Technology: Ink jet **Input:** Keyboard **Resolution:** 640 points/line **Color:** supported **Introduced:** 1984 **Cost:** $895

ROLAND DG
(division of Roland Corp. US)

☐ DPX-2000
Technology: Flatbed **Plotting method:** Line **Plot speed:** 400mm/sec. **Resolution:** 0.0125mm **Accuracy:** (±)0.3% + 0.04 inch **Repeatability:** (±)0.02 inch **Pens:** 8 Fibertip; Oil-base; Ballpoint; Ceramic **Firmware avail.:** Scaling **Color:** supported **Support equip:** Cables **Software supported:** High-level languages; Operating system; Business applications **Introduced:** 1985 **Cost:** $4,795

☐ DXY-101
Technology: Flatbed **Plot speed:** 175mm/sec **Resolution:** 0.1mm **Pens:** 1 Fibertip **Color:** supported **Cost:** $595

☐ DXY-800
Technology: Flatbed **Plot speed:** 175mm/sec **Resolution:** 0.1mm **Repeatability:** 0.012 inch **Pens:** 8 Fibertip **Firmware avail.:** Character Set **Color:** supported **Cost:** $895

☐ DXY-880
Technology: Flatbed **Plotting method:** Line **Plot speed:** 8 inches/sec **Resolution:** 0.002 inch **Accuracy:** (±) 0.012 inch **Pens:** 8 Water base; Felt tip; Oil base **Color:** supported **Software supported:** Business applications **Cost:** $1,295

☐ DXY-980
Technology: Flatbed **Plotting method:** Line **Plot speed:** 10 inches/sec **Resolution:** 0.05mm/step; 0.002 inch **Repeatability:** (±)0.012 inch **Pens:** 8 Fibertip; OHP; Ballpoint; Ceramic tip; Ink **Color:** supported **Support equip:** Cables **Software supported:** High-level languages; Business applications **Cost:**

SEIKO INSTRUMENTS U.S.A., INC.
Graphics Devices & Systems Division

☐ CH-5201 Color Hard Copier
Technology: Thermal ink transfer **Zoom ratio:** 2X **Resolution:** 150 dots/inch **Accuracy:** 0.006 inch **Repeatability:** 0.006 inch **Color:** supported **Maximum colors:** 8 displayable **Introduced:** 1983 **Cost:** $12,650

SHARP ELECTRONICS CORP.
Systems Division

☐ CE-515P
Technology: Hybrid-grit wheel **Input:** Keyboard **Plotting method:** Point; Line **Plot speed:** 3.2 inches/sec **Resolution:** 0.008 inch **Accuracy:** 0.008 inch **Repeatability:** 0.008 inch **Pens:** 4 Water base; Ballpoint; Oil base; Felt-tip **Firmware avail.:** Character Set **Color:** supported **Support equip:** Software **Software supported:** Business applications **Introduced:** 1984 **Cost:** $399

SOLTEC DISTRIBUTION
(subsidiary of Soltec Corp.)

☐ Digital Plotter SPL-430
Technology: Drum **Input:** Keyboard **Includes:** Plotter or hard copy device; Digitizer **Plotting method:** Line **Plot speed:** 21.6 inches/sec. **Resolution:** 0.003 inches **Accuracy:** 0.008 inch **Repeatability:** 0.016; 0.008 inch **Pens:** 6 Fibertip; Roller; Drafting **Firmware avail.:** Character Set; Curve; Scaling; Grids; Window plot **Color:** supported **Support equip:** Software **Software supported:** High-level languages; Business applications; CAD/CAM applications; CAE applications **Units sold:** 100 since 1985 **Cost:** $1,595

SYSSCAN, INC.

☐ GT5000 Automatic Drafting Machine
Technology: Flatbed **Input:** Keyboard **Plotting method:** Line **Plot speed:** 40 inches/sec **Resolution:** 0.0004 inch **Accuracy:** (±) 0.002 inch **Repeatability:** (±) 0.0006 inch **Pens:** 4 Ballpoint; Liquid ink; Pressurized liquid ink; Felt-tip **Firmware avail.:** Scaling; Rotation; Windowing; Transformation; Interpolation **Color:** supported **Software supported:** High-level languages **Units sold:** 85 since 1978 **Cost:** $140,000

TAXAN CORP.

☐ KPL 710S
Technology: Flatbed **Input:** Keyboard **Plotting method:** Point **Plot speed:** 12 inches/sec **Resolution:** 0.001 inch **Accuracy:** 0.008 inch **Repeatability:** 0.016 inch **Pens:** 6 Fiber; Oil base; Ceramic **Color:** supported **Capability:** 3D **Software supported:** Operating system **Units sold:** 1,000 since 1985 **Cost:** $995

UNITED INNOVATIONS

☐ Mural "D" Size Plotter
Technology: Flatbed **Input:** Keyboard; Joystick **Includes:** Digitizer **Plot speed:** 5 inches/sec **Resolution:** 0.0035 inch **Repeatability:** 0.001 inch **Pens:** 4 H.P. type **Color:** supported **Support equip:** Software **Software supported:** Business applications; CAD/CAM applications; Architectural and electronic CAD; Civil/structural; Digitizing; Educational; Engineering applications **Units sold:** 200 since 1985 **Cost:** $2,495

WESTERN GRAPHTEC, INC.

☐ FP5201
Technology: Flatbed **Plot speed:** 16 inches/sec **Pens:** 10 Ballpoint; Fibertip; Ceramic **Color:** supported **Introduced:** 1985 **Cost:** $7,790

☐ GP9001
Technology: Curved flatbed **Input:** Keyboard **Includes:** Digitizer **Accuracy:** 0.008 inch **Repeatability:** 0.008 inch **Pens:** 4 Water; Oil base **Firmware avail.:** Character Set; Curve; Scaling **Color:** supported **Software supported:** High-level languages; CAD/CAM applications **Introduced:** 1986 **Cost:** $6,050-$6,275

☐ MP2000
Technology: Flatbed **Input:** Keyboard **Plot speed:** 10 inches/sec **Pens:** 8 Oil base; Water base; Fibertip; Ballpoint **Color:** supported **Units sold:** 1985 **Cost:** $998

☐ WX4731
Technology: Drum **Input:** Keyboard **Plotting method:** Line **Plot speed:** 8 inches/sec **Resolution:** 0.004 inch **Accuracy:** (±) 0.008 inch **Repeatability:** (±) 0.006 inch **Pens:** 4 Water or oil base **Steps/inch:** 250 **Firmware avail.:** Character Set; Curve; Scaling **Color:** supported **Introduced:** 1982 **Cost:** $3,290

XYNETICS PRODUCTS
(unit of General Signal Corp.)

☐ Model 1051
Technology: 33" X 44" Flatbed **Input:** Keyboard **Plotting method:** Line **Plot speed:** 40 inches/sec **Resolution:** 0.001 inch **Accuracy:** (±) 0.005 inch **Repeatability:** (±) 0.001 inch **Pens:** 4 Scribe; Ballpoint; Liquid ink **Firmware avail.:** Character Set; Curve; Scaling; Rotation **Color:** supported **Software supported:** Operating system **Units sold:** 500 since 1970 **Cost:** $60,000

PRINTERS

CHARACTER PRINTERS

ACOM COMPUTER CO.

☐ IJ150
150 cps Type: Inkjet Print positions: 142 Cost: $1,995

☐ MX120
80; 120 cps Type: Dot matrix Cost: $1,695

☐ MX160
33; 160 cps Type: Dot matrix Cost: $1,895

ADDMASTER CORP.
Peripheral Division

☐ Model 172
150 lpm Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 18; 21 Feed: Tractor Carriage width: 2.25 in. Support equip: Cables; Software Units sold: 10 since 1983 Cost: $345

ADDRESSOGRAPH FARRINGTON, INC.

☐ Direct Impression Printer (D.I.P.)
280 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 42 Buffer: 2K bytes Feed: Friction Introduced: 1983 Cost: $9,500

☐ DM 125
150 cps Type: Dot matrix Matrix: 9 X 7 Character set: 96 Print positions: 132 Printing: bidirectional Feed: Pin Carriage width: 10 in. Introduced: 1983 Cost: $1,600

☐ DM 340
340 cps Type: Dot matrix Matrix: 7 X 7 Character set: 128 Print positions: 132 Printing: bidirectional Feed: Pin Carriage width: 16 in. Introduced: 1983 Cost: $3,500

☐ DM 80
100 cps Type: Dot matrix Matrix: 9 X 9 Character set: 298 Print positions: 80 Printing: bidirectional Feed: Tractor Carriage width: 10 in. Introduced: 1983 Cost: $695

☐ DW 40
40 cps Type: Daisy wheel Character set: 96 Print positions: 136 Printing: bidirectional Buffer: 2K bytes Feed: Friction Carriage width: 16 in. Introduced: 1983 Cost: $2,495

☐ DW 47
47 cps Type: Daisy wheel Character set: 96 Print positions: 132; 158 Printing: bidirectional Buffer: 255 bytes Feed: Friction Introduced: 1983 Cost: $4,000

ALPHA MICROSYSTEMS

☐ AM-304
30; 100; 180 cps Type: Dot matrix Matrix: 84 X 84 Character set: 96 Print positions: 80; 132 Printing: bidirectional Buffer: 2K bytes Feed: Tractor; Friction Carriage width: 11 in. Introduced: 1984

☐ AM-306
35; 110; 200 cps Type: Dot matrix Matrix: 5 X 4 staggered Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 2K bytes Feed: Tractor; Friction Carriage width: 14 in. Introduced: 1984

ALPHACOM
(division of Brown Kellogg, Inc.)

☐ Alphacom Aero
130 cps Type: Dot matrix Matrix: 6 X 8 Character set: 96 Resolution: 480; 960 dots per inch Printing: bidirectional Buffer: 2K bytes Feed: Friction; Pin-on platen Introduced: 1985 Cost: $250

☐ Alphacom 81
80 cps Type: Dot matrix Matrix: 8 X 9 Character set: 96 Print positions: 80 Buffer: 80 bytes Feed: Friction Carriage width: 8.75 in. Units sold: 10,000 since 1984 Cost: $170

☐ Alphapro
20 cps Type: Daisy wheel Character set: 94 Print positions: 80-132 Printing: bidirectional Buffer: 93; (optional) 4K bytes Feed: Friction Carriage width: 13 in. Introduced: 1984 Cost: $399

☐ Alphapro 101
20 cps Type: Daisy wheel Print positions: 132; 110; 165 Printing: bidirectional Buffer: 93 bytes Feed: Friction Carriage width: 13 in. Introduced: 1985 Cost: $399

ALPS ELECTRIC (USA), INC.
(subsidiary of Alps Electric Co., Ltd.)
SEE AD ON PAGE 169

☐ PTSWA-10
105 cps Type: Dot matrix Character set: 96 Print positions: 80 Printing: bidirectional Feed: Tractor; Friction Carriage width: 10 in. Introduced: 1985

☐ P2000
50; 125; 250 cps Type: Dot matrix Character set: 96; 86; 131; 278 Print positions: 136 Resolution: 240 X 144 dots per inch Printing: bidirectional Buffer: 4K; 6K bytes Feed: Tractor; Friction; Sheet Carriage width: 16 in. Introduced: 1985

☐ P2100
80; 200; 400 cps Type: Dot matrix Resolution: 240 X 216 dots per inch Buffer: 4K-256K bytes Feed: Tractor Introduced: 1986 Cost: $1,595

AMERICAN COMPUTER HARDWARE CORP.

☐ ACB-300
300 lpm Type: Band Character set: 48; 64; 96 Print positions: 132; 136 Buffer: 1K; 2K; 4K; 8K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1981

☐ ACB-600
600 lpm Type: Band Character set: 48; 64; 96 Print positions: 132; 136 Buffer: 1K; 2K; 4K; 8K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1981

☐ ACM-200
200 lpm Type: Band Matrix: 7 X 7 Character set: 128 Print positions: 132; 66; 220 Printing: bidirectional Buffer: 2K; 8K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1981 Cost: $1,800-$2,900

☐ POS-132
82.5-165 cps Type: Dot matrix Matrix: 18 X 9; 9 X 9 Character set: 96 Print positions: 136; 163; 225 Resolution: 72 X 72 dots per inch Printing: bidirectional Buffer: 3.3K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1984

☐ POS-40
200 cps Type: Dot matrix Matrix: 9 X 9 Character set: 128 Print positions: 40 Resolution: 144 X 144 dots per inch Printing: bidirectional Buffer: 1.3K; (optional) 7.3K bytes Feed: Friction Carriage width: 3.2 in. Introduced: 1984 Cost: $995

☐ POS-80
75; 150 cps Type: Dot matrix Matrix: 18 X 9; 9 X 9 Character set: 96 Print positions: 80; 132; 96 Resolution: 72 X 72 dots per inch Printing: bidirectional Buffer: 3.4K bytes Feed: Tractor Carriage width: 10 in. Introduced: 1984

ANADEX, INC.
(subsidiary of Printronix, Inc.)

☐ DP-6500 Series
540 cps Type: Dot matrix Matrix: 17 X 18 Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 4.5K bytes; 16K bytes Feed: Tractor; Friction Carriage width: 15 in. Units sold: 2,500 since 1983 Cost: $2,295

☐ DP-9000B Series
240 cps Type: Dot matrix Matrix: 7 X 9 Character set: 96 Print positions: 80 Printing: bidirectional Buffer: 3.5K bytes Feed: Tractor Carriage width: 9.5 in. Units sold: 3,500 since 1983 Cost: $1,200

☐ DP-9001B
250 cps Type: Dot matrix Matrix: 7 X 9; 11 X 9 Character set: 96 Print positions: 80 Printing: bidirectional Buffer: 3.5K; 5.5K bytes Feed: Tractor Carriage width: 9.5 in. Units sold: 1,500 since 1982 Cost: $1,200

☐ DP-9500B Series
240 cps Type: Dot matrix Matrix: 7 X 9; 9 X 9; 11 X 9 Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 3.5K bytes Feed: Tractor Carriage width: 15 in. Units sold: 28,000 since 1983 Cost: $1,280

☐ DP-9501B
250 cps Type: Dot matrix Matrix: 7 X 9; 9 X 9; *11 X 9 Character* set: 96 Print positions: 132 Printing: bidirectional Buffer: 3.5K; 5.5K bytes Feed: Tractor Carriage width: 15 in. Units sold: 3,500 since 1983 Cost: $1,280

☐ DP-9620B Series
240 cps Type: Dot matrix Matrix: 7 X 9; 9 X 9; 11 X 9; 13 X 9 Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 3.5K; 5.5K bytes Feed: Tractor Carriage width: 15 in. Units sold: 200 since 1983 Cost: $1,380

☐ DP-9625B Series
240 cps Type: Dot matrix Matrix: 17 X 18 Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 3.5K; 5.5K bytes Feed: Tractor Carriage width: 15 in. Units sold: 3,000 since 1983 Cost: $1,500

☐ DP-9752B Color/Scribe Printer
240 cps Type: Dot matrix Matrix: 17 X 18 Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 3.5K; 5.5K bytes Feed: Tractor Carriage width: 15 in. Units sold: 1,200 since 1984 Cost: $1,625

☐ WP-6000
285 cps Type: Dot matrix Matrix: N X 18; N X 9 Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 4.5K; 16K bytes Feed: Tractor; Friction Carriage width: 15 in. Units sold: 400 since 1983 Cost: $2,295

ANDERSON JACOBSON, INC.

☐ AJ 831
30 cps Type: Daisy wheel Introduced: 1984 Cost: $598

ANTEX DATA SYSTEMS (ADS)
(division of International Antex, Inc.)

☐ ADS-2000
40; 165 cps Type: Dot matrix Matrix: 7 X 9 Character set: 256 Print positions: 80 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 2K bytes Feed: Friction; Sprocket Carriage width: 10 in. Units sold: 3,000 since 1984 Cost: $449

APROTEK

☐ Daisy 1120
20 cps Type: Daisy wheel Character set: 96 Printing: bidirectional Buffer: 2K bytes Feed: Friction; Sheet Carriage width: 13.5 in. Support equip: Cables Introduced: 1985 Cost: $300

AT&T INFORMATION SYSTEMS

☐ Model 477
80; 160; 240 cps Type: Dot matrix Matrix: N X 24 Printing: bidirectional Introduced: 1986 Cost: $1,695

☐ Model 478
50; 200 cps Type: Dot matrix Matrix: 7 X 9; 10 X 18 Character set: 96 Resolution: 240 X 144 dots per inch Printing: bidirectional Buffer: 16K bytes Feed: Tractor; Friction; Pin Carriage width: 9.5 in. Cost: $985

☐ Model 479
50; 200 cps Type: Dot matrix Matrix: 7 X 9; 10 X 18 Character set: 96 Resolution: 240 X 144 dots per inch Printing: bidirectional Buffer: 16K bytes Feed: Tractor; Friction; Pin Carriage width: 15 in. Cost: $1,185

AXIOM CORP.

☐ EX-1601
240 cps Type: Dot matrix Matrix: 5 X 8 Character set: 96; 128 Print positions: 40; 80; 27 Buffer: 100 bytes Feed: Tractor Carriage width: 9 in. Introduced: 1983 Cost: $589

☐ **EX-1620**
960 cps **Type:** Dot matrix **Matrix:** 11 X 20 **Character set:** 64; 96 **Print positions:** 40; 80; 160 **Buffer:** 8K bytes **Feed:** Friction **Carriage width:** 8.5 in. **Units sold:** 600 since 1983 **Cost:** $795

☐ **EX-420 Electro-Sensitive**
550 cps **Type:** Dot matrix **Matrix:** 5 X 8; 11 X 20 **Character set:** 96 **Print positions:** 46; 92 **Buffer:** 8K bytes **Feed:** Friction **Carriage width:** 5 in. **Introduced:** 1982 **Cost:** $745

☐ **EX-801 Microprinter**
160 cps **Type:** Dot matrix **Matrix:** 5 X 8 **Character set:** 96; 128 **Print positions:** 40; 80; 20 **Buffer:** 2K bytes **Units sold:** 30,000 since 1977 **Cost:** $599

AXONIX CORP.

☐ *ThinPrint 80* **(Battery Powered)**
40 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 96 **Print positions:** 80; 132 **Resolution:** 960 X 7 dots per line **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Friction; Roll **Carriage width:** 8.5 in. **Support equip:** Cables **Units sold:** 5,000 since 1983 **Cost:** $299 (includes battery, charger, paper)

☐ **ThinType 80 (Battery Powered)**
15 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 80 **Printing:** bidirectional **Buffer:** 80 bytes **Feed:** Friction **Carriage width:** 8.5 in. **Support equip:** Cables **Units sold:** 3,000 since 1983 **Cost:** $429

☐ *ThinWrite 80* **(Battery Powered)**
10; 12; 50 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 23 **Character set:** 48; 96 **Print positions:** 80; 132 **Printing:** bidirectional **Buffer:** 80 bytes **Feed:** Tractor; Friction; Pin **Carriage width:** 10 in. **Support equip:** Cables **Units sold:** 5,000 since 1984 **Cost:** $449

BDS CORP.

☐ **BDS TriPrinter**
87; 350 cps **Type:** Dot matrix **Matrix:** 9 X 8; 17 X 16 **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Units sold:** 10,000 since 1984 **Cost:** $1,995

☐ **B1000**
1,000 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132; (optional) 136 **Buffer:** 1K-4K bytes **Feed:** Tractor **Carriage width:** 15 in. **Units sold:** 700 since 1981 **Cost:** $10,500

☐ **B300**
300 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132; (optional) 136 **Buffer:** 1K-4K bytes **Feed:** Tractor **Carriage width:** 15 in. **Units sold:** 3,000 since 1975 **Cost:** $6,250

☐ **B600**
600 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132; (optional) 136 **Buffer:** 1K-4K bytes **Feed:** Tractor **Carriage width:** 15 in. **Units sold:** 2,500 since 1978 **Cost:** $8,050

☐ **LB300**
300 lpm **Type:** Band **Character set:** 112 **Introduced:** 1986 **Cost:** $4,995

☐ *LB615*
660 lpm **Type:** Band **Character set:** 112 **Introduced:** 1986 **Cost:** $6,795

☐ **LM300+**
85; 300 lpm **Type:** Dot matrix **Matrix:** 9 X 9; 17 X 17 **Character set:** 96 **Print positions:** 220 **Units sold:** 3,000 since 1985 **Cost:** $5,395

☐ **LM600+**
170; 600 lpm **Type:** Dot matrix **Matrix:** 9 X 9; 17 X 17 **Character set:** 96 **Print positions:** 220 **Units sold:** 2,000 since 1985 **Cost:** $7,995

BLUE CHIP ELECTRONICS, INC.

☐ **D40/15**
40 cps **Type:** Daisy wheel **Character set:** 96 **Printing:** bidirectional **Buffer:** 1K; (optional) 16K bytes **Feed:** Tractor; Friction **Carriage width:** 14.5 in. **Units sold:** 50,000 since 1983 **Cost:** $695

☐ **M120/10**
120 cps **Type:** Dot matrix **Matrix:** 9 X 8 **Character set:** 88; 103; 160; 192 **Print positions:** 142 **Printing:** bidirectional **Buffer:** 1K bytes **Feed:** Tractor; Platen **Carriage width:** 10 in. **Units sold:** 40,000 since 1984 **Cost:** $299

BROTHER INTERNATIONAL CORP.
Information Systems & Peripheral Division

☐ **HR-10**
12 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 80; 96; 120 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 11 in. **Units sold:** 9,500 since 1985 **Cost:** $349

☐ **HR-15XL**
17 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 110; 165 **Printing:** bidirectional **Buffer:** 3K; (optional) 5K bytes **Feed:** Friction **Carriage width:** 13.5 in. **Units sold:** 90,500 since 1984 **Cost:** $599

☐ **HR-20**
20 cps **Type:** Daisy wheel **Printing:** bidirectional **Introduced:** 1986 **Cost:** $499

☐ **HR-25**
23 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Friction **Carriage width:** 16.5 in. **Units sold:** 23,000 since 1984 **Cost:** $749

☐ **HR-35**
36 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 7K bytes **Feed:** Friction **Carriage width:** 16.5 in. **Units sold:** 13,200 since 1984 **Cost:** $1,049

☐ **M-1109**
25; 100 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80 **Resolution:** 60-240 dots per inch **Feed:** Tractor; Friction **Carriage width:** 10 in. **Units sold:** 9,000 since 1986 **Cost:** $299

☐ **M-1509**
45; 180 cps **Type:** Dot matrix **Matrix:** 9 X 9; 8 X 6 **Character set:** 96 **Print positions:** 136 **Resolution:** 60; 72; 90; 108; 120; 144; 240 dots per inch **Printing:** bidirectional **Buffer:** 3K; 4K bytes **Feed:** Tractor; Friction; Pin **Carriage width:** 16.5 in. **Units sold:** 39,000 since 1985 **Cost:** $549

☐ **M-1709**
50; 200 cps **Type:** Dot matrix **Matrix:** N X 9 **Character set:** 96 **Print positions:** 80; 96; 136 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $699

☐ **Model 2024L**
80; 160 cps **Type:** Dot matrix **Matrix:** 24 X N **Character set:** 96; 17 **Print positions:** 136; 163; 272 **Resolution:** 60; 90; 120; 180 dots per inch **Printing:** bidirectional **Buffer:** 8K bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 15 in. **Units sold:** 5,400 since 1984 **Cost:** $1,295

☐ **Twinriter 5**
36; 140 cps **Type:** Dot matrix; Daisy wheel **Matrix:** 7 X 9; 24 X 24 **Character set:** 96 **Print positions:** 136; 163; 204 **Resolution:** 60; 120; 240 dots per inch **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 16.5 in. **Units sold:** 8,400 since 1985 **Cost:** $1,295

BURROUGHS CORP.

☐ **A 1340**
230 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 192 **Print positions:** 132 **Cost:** $3,590; Lease (mo.) —$180

☐ **AP 1300**
45 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 158 **Introduced:** 1981 **Cost:** $4,350; Lease (mo.) —$180

☐ **AP 1305**
55 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 197 **Printing:** bidirectional **Cost:** $2,095

☐ **B 9251**
230 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 192 **Print positions:** 132 **Cost:** $3,487; Lease (mo.) —$123

C. ITOH DIGITAL PRODUCTS, INC.

☐ **D10-40**
40 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 136; 163 **Printing:** bidirectional **Buffer:** 8K bytes **Feed:** Friction; (optional) Tractor **Carriage width:** 16 in. **Introduced:** 1986 **Cost:** $999

☐ **Prowriter C-315; C315XP**
136; 163 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Introduced:** 1986 **Cost:** $819

☐ **Prowriter 8510 SAR; 1550 SAR**
45; 120; 180 cps **Type:** Dot matrix **Print positions:** 40; 80; 96 **Printing:** bidirectional **Introduced:** 1985 **Cost:** $599; $749

☐ **Starwriter F10-55**
58 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 256; (optional) 2K bytes **Feed:** Friction; (optional) Tractor **Carriage width:** 16 in. **Introduced:** 1982 **Cost:** $1,599

☐ **Starwriter Y10-20**
22 cps **Type:** Daisy wheel **Character set:** 100 **Print positions:** 80 **Printing:** bidirectional **Buffer:** 256; (optional) 2K; 8K bytes **Feed:** Tractor; Friction **Carriage width:** 13.4 in. **Introduced:** 1984 **Cost:** $549

☐ **1550 SCP; 1550 SCR; 1550 SCAR; 1550 SCEP Color Printer**
22; 120; 180 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 64; 96 **Print positions:** 136 **Resolution:** 144 X 160 **Printing:** bidirectional **Buffer:** 2K; 4K; (optional) 10K bytes **Feed:** Tractor; Friction **Carriage width:** 15.5 in. **Introduced:** 1983 **Cost:** $899; $949

☐ **1550 SEP**
45; 120; 180 cps **Type:** Dot matrix **Print positions:** 132; 230 **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Cost:** $679

☐ **1550SP; 1550SR**
45; 120; 180 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96; 64 **Print positions:** 136 **Resolution:** 144 X 160 matrix **Printing:** bidirectional **Buffer:** 2K; 4K; (optional) 10K bytes **Feed:** Tractor; Friction **Carriage width:** 15.5 in. **Introduced:** 1983 **Cost:** $679; $749

☐ **8510 SEP**
45; 120; 180 cps **Type:** Character **Print positions:** 80; 132 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Cost:** $529

☐ **8510SP; 8510SR**
45; 120; 180 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96; 64 **Print positions:** 80 **Resolution:** 144 X 160 matrix **Printing:** bidirectional **Buffer:** 2K; 4K; (optional) 10K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Introduced:** 1983 **Cost:** $529

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C. ITOH ELECTRONICS, INC.

☐ Model 1570
66; 130; 200 cps **Type:** Dot matrix **Matrix:** 13 X 18; 18 X 18; 15 X 18 **Character set:** 96 **Print positions:** 136 **Resolution:** 360 X 360 matrix **Printing:** bidirectional **Buffer:** 16K bytes **Feed:** Tractor; Friction **Carriage width:** 15.5 in. **Introduced:** 1984 **Cost:** $1,300

☐ Model 8510SR
120; 180 cps **Type:** Dot matrix **Matrix:** 7 X 9; N X 8; N X 9 **Resolution:** 80; 96; 136; 160 dots per inch **Printing:** bidirectional **Buffer:** 2K; 4K bytes **Feed:** Tractor; Friction; Pin **Carriage width:** 12 in. **Introduced:** 1986

☐ Model 9500/9515
28; 125; 250 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 27 **Print positions:** 80; 96; 136; 162; 230 **Resolution:** 240 dots per inch **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 10-15.5 in. **Introduced:** 1985 **Cost:** $649; $819

☐ Prowriter 7500 Series
105 cps **Type:** Dot matrix **Matrix:** 9 X 9; 12 X 12 **Character set:** 64; 96 **Print positions:** 80; 96; 136 **Resolution:** 160 X 144 matrix **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Introduced:** 1985 **Cost:** $425

☐ Starwriter A10-30 Daisy Wheel Printer
30 cps **Type:** Daisy wheel **Character set:** 100 **Print positions:** 115; 138 **Printing:** bidirectional **Buffer:** 256; (optional) 2K; 8K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Introduced:** 1982 **Cost:** $695

☐ TPX-80
80 cps **Type:** Thermal **Print positions:** 80 **Introduced:** 1985 **Cost:** $350

CAL-ABCO
Legend Peripheral Products Division

☐ LEGEND CPVII
180 cps **Type:** Dot matrix **Character set:** 96; 228 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Units sold:** 1,500 since 1984 **Cost:** $1,195

☐ LEGEND 1080
140 cps **Type:** Dot matrix **Character set:** 192 **Printing:** bidirectional **Buffer:** (optional) 4K bytes **Feed:** Friction; Sprocket **Carriage width:** 10 in. **Units sold:** 55,000 since 1984 **Cost:** $339

☐ LEGEND 1380
160 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 255 **Print positions:** 40; 80; 132 **Printing:** bidirectional **Buffer:** 2K; (optional) 4K bytes **Feed:** Friction; Sprocket **Carriage width:** 10 in. **Units sold:** 20,000 since 1984 **Cost:** $379

CANDELA, INC.

☐ Message Printer
15 cps **Type:** Dot matrix **Cost:** $160

CANON U.S.A., INC.

☐ A-40
140 cps **Type:** Dot matrix **Matrix:** 11 X 9 **Printing:** bidirectional **Buffer:** 1.4K bytes **Introduced:** 1985 **Cost:** $349

☐ A-50; A-55
34; 180 cps **Type:** Dot matrix **Matrix:** 11 X 9; 23 X 18 **Printing:** bidirectional **Introduced:** 1985 **Cost:** $499; $699

☐ BJ-80 Bubble-Jet Printer
110; 220 cps **Matrix:** 18 X 24; 9 X 24 **Character set:** 96 **Printing:** bidirectional **Buffer:** 2K bytes **Carriage width:** 9.5 in. **Introduced:** 1985 **Cost:** $599

☐ F-200S
20; 40; 80 cps **Type:** Dot matrix **Matrix:** 9 X 24; 18 X 24; 36 X 24 **Print positions:** 40; 80; 136; 188 **Resolution:** 360 dots per inch **Carriage width:** 11 in. **Support equip:** Cables **Introduced:** 1984 **Cost:** $549

☐ F-60
20; 40; 80 cps **Type:** Dot matrix **Matrix:** 9 X 24; 28 X 24; 36 X 24; 72 X 24 **Print positions:** 55; 110; 188 **Feed:** Friction **Carriage width:** 12 in. **Introduced:** 1984 **Cost:** $499

☐ PJ-1080A
37 cps **Type:** Ink jet **Matrix:** 5 X 7 **Character set:** 40; 80 **Resolution:** 640 dots per inch **Introduced:** 1984 **Cost:** $699

☐ PJ-200S Color Printer
37 cps **Type:** Ink jet **Matrix:** 5 X 7 **Character set:** 40; 80 **Print positions:** 40; 80 **Resolution:** 640 dots per inch **Support equip:** Cables **Introduced:** 1984 **Cost:** $749

☐ PW-1080A
160 cps **Type:** Dot matrix **Matrix:** N X 15; 11 X 9; 23 X 18 **Print positions:** 80 **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Introduced:** 1984 **Cost:** $449

☐ PW-1156A
160 cps **Type:** Dot matrix **Matrix:** N X 16; 23 X 18 **Print positions:** 156 **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 17 in. **Cost:** $699

☐ PW-200S
27; 160 cps **Type:** Dot matrix **Matrix:** 11 X 9; 23 X 18 **Print positions:** 40; 80; 136 **Resolution:** 240 dots per inch **Support equip:** Cables **Introduced:** 1984 **Cost:** $449

☐ PW-250S
27; 160 cps **Type:** Dot matrix **Matrix:** 11 X 9; 23 X 18 **Print positions:** 78; 156; 265 **Resolution:** 240 dots per inch **Support equip:** Cables **Introduced:** 1984 **Cost:** $649

CAPITOL CIRCUITS CORP.
Printer Products Division

☐ S270 Slip/Document Printer
65 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 96 **Print positions:** 27 **Buffer:** 27 bytes **Units sold:** 1,200 since 1980 **Cost:** $835

☐ S400 Slip/Document Printer
150 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 96 **Print positions:** 40 **Printing:** bidirectional **Buffer:** 176; (optional) 2K bytes **Feed:** Friction **Carriage width:** 8 in. **Units sold:** 1,390 since 1982 **Cost:** $945

CECORP

☐ Class 160 MP
80; 160 cps **Type:** Dot matrix **Character set:** 48; 64; 96; 128 **Print positions:** 80; 132 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 8.5 in. **Support equip:** Software; ROM **Units sold:** 1,000 since 1979 **Cost:** $900

☐ MP300
300 lpm **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 48; 64; 96; 128 **Print positions:** 80; 132 **Resolution:** 100 dots per inch **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 14.5 in. **Units sold:** 50 since 1979 **Cost:** $7,875-$11,500

☐ MP600
600 lpm **Character set:** 48; 64; 96; 128 **Print positions:** 80; 132 **Resolution:** 100 dots per inch **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 14.5 in. **Units sold:** 50 since 1979 **Cost:** $10,-775-$14,000

☐ TP30
30 cps **Matrix:** 5 X 7 **Character set:** 48; 64; 96; 128 **Print positions:** 80; 132 **Printing:** bidirectional **Feed:** Friction **Carriage width:** 8.5 in. **Units sold:** 10 since 1979

CENTRONICS DATA COMPUTER CORP.

☐ GLP II
25; 100 cps **Introduced:** 1986 **Cost:** $279

☐ GLP Series
12; 50 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80; 132 **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Friction; Pin **Carriage width:** 10 in. **Introduced:** 1984 **Cost:** $299

☐ Linewriter 400
300; 400 lpm **Type:** Band **Character set:** 48; 64; 96; 128 **Print positions:** 132; (optional) 136 **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 18 in. **Units sold:** 8,000 since 1983 **Cost:** $4,885

☐ Linewriter 800
600; 800 lpm **Type:** Band **Character set:** 48; 64; 96; 128 **Print positions:** 132; (optional) 136 **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 18 in. **Units sold:** 5,000 since 1984 **Cost:** $6,595

☐ Model H136
27; 160 cps **Type:** Dot matrix **Matrix:** 11 X 9; 23 X 16 **Character set:** 256 **Print positions:** 156; 187; 265 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor; Friction **Carriage width:** 17 in. **Introduced:** 1984 **Cost:** $899

☐ Model H80
27; 160 cps **Type:** Dot matrix **Matrix:** 11 X 9; 23 X 16 **Character set:** 256 **Print positions:** 80; 96 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Introduced:** 1984 **Cost:** $699

☐ Model 351
50; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 15 X 16; N X 8 **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Introduced:** 1982 **Cost:** $1,995

☐ Model 351-PC
50; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 11 X 18; 15 X 16 **Character set:** 96 **Print positions:** 132 **Resolution:** 66 X 73; 82.5 X 73; 110 X 73; 165 X 73 dots per inch **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Introduced:** 1984 **Cost:** $1,995

☐ Model 352
200 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96 **Print positions:** 132 **Resolution:** 66 X 72 dots per inch **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Introduced:** 1982 **Cost:** $2,495

☐ Model 353
50; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 15 X 16 **Character set:** 96 **Print positions:** 132 **Resolution:** 66 X 72 dots per inch **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor; Friction; (optional) Sheet **Carriage width:** 15 in. **Introduced:** 1982 **Cost:** $2,495

☐ Model 354
50; 200; 220 cps **Type:** Dot matrix **Matrix:** 7 X 9; 9 X 9; 15 X 16; N X 18 **Character set:** 96 **Print positions:** 132 **Resolution:** 72 X 72; 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 2K; (optional) 4K bytes **Feed:** Tractor; Friction; Sheet (optional) **Carriage width:** 15 in. **Introduced:** 1984 **Cost:** $2,195 (354-1); $2,395 (354-3)

☐ Model 354-WP
50; 200; 220 cps **Type:** Dot matrix **Matrix:** 7 X 9; 9 X 9; 15 X 16; N X 18 **Character set:** 96 **Print positions:** 132 **Resolution:** 72 X 72; 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 2K; (optional) 4K bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 15 in. **Introduced:** 1985 **Cost:** $2,195-$2,695

☐ Model 358
100; 400 cps **Type:** Dot matrix **Matrix:** 7 X 9; 15 X 16 **Character set:** 96 **Print positions:** 132 **Resolution:** 66 X 72 dots per inch **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 15 in. **Introduced:** 1983 **Cost:** $2,895; $3,195

☐ Model 359-IL
55; 95; 400 cps **Type:** Dot matrix **Character set:** 96 **Print positions:** 80; 132 **Resolution:** 72 X 72; 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 15 in. **Units sold:** 1985 **Cost:** $2,895-$3,395

☐ Model 359-ST
75; 155; 310 cps Type: Dot matrix Matrix: 7 X 9; 9 X 9; 15 X 18; 31 X 18; N X 18; N X 9; 2N X 18 Character set: 96 Print positions: 80; 132 Resolution: 72 X 72; 144 X 144 dots per inch Printing: bidirectional Buffer: 4K bytes Feed: Tractor; Friction; Sheet Carriage width: 15 in. Introduced: 1985 Cost: $2,895-$3,195

☐ Printstation 210; 220
45; 180 cps Type: Dot matrix Print positions: 110; 136 Printing: bidirectional Introduced: 1986 Cost: $499; $599

☐ TIP-300
75-300 lpm Type: Dot matrix Matrix: 7 X 9; 16 X 16 Character set: 96 Print positions: 132; 176; 220 Resolution: 100 X 72 dots per inch Printing: bidirectional Buffer: 2K bytes Feed: Tractor Carriage width: 16 in. Units sold: 2,500 since 1982 Cost: $5,400

☐ 240 Series Printstation
80; 160 cps Type: Dot matrix Matrix: 7 X 18; N X 16 Character set: 96 Print positions: 136; 163; 231 Printing: bidirectional Buffer: 256 bytes Feed: Tractor; Friction; (optional) Sheet Carriage width: 14 in. Introduced: 1984 Cost: $1,495

☐ 250 Series Printstation
40; 160; 185; 200 cps Type: Dot matrix Matrix: 9 X 9; 9 X 7 Character set: 96 Resolution: 72 X 72 dots per inch Printing: bidirectional Buffer: 2K; (optional) 8K bytes Feed: Friction; Pin; Sheet Carriage width: 8.5 in. Units sold: 3,000 since 1984 Cost: $1,295

☐ 260 Series Printstation
40; 160; 185; 200 cps Type: Dot matrix Matrix: 9 X 9; 9 X 7 Character set: 96 Resolution: 72 X 72; 144 X 144 dots per inch Printing: bidirectional Buffer: 2K; (optional) 8K bytes Feed: Friction; Pin; Sheet Carriage width: 14 in. Introduced: 1985

CIE SYSTEMS, INC.
(subsidiary of C. Itoh Electronics, Inc.)

☐ CIE 8510R
180 cps Type: Dot matrix Matrix: 7 X 9; 9 X 9; N X 8; N X 9 Printing: bidirectional Buffer: 2K; 4K bytes Feed: Tractor; Friction Carriage width: 10 in. Introduced: 1985

CIE TERMINALS

☐ CI-3500/10
87; 350 cps Type: Dot matrix Matrix: 9 X 8; 17 X 16 Character set: 96; 37 Print positions: 217 Resolution: 240 X 144 dots per inch Printing: bidirectional Buffer: 2K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1984 Cost: $1,995

☐ CI-3500/20
87; 350 cps Type: Dot matrix Matrix: 9 X 8; 17 X 16 Character set: 96 Print positions: 233 Resolution: 240 X 144 dots per inch Printing: bidirectional Buffer: 2K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1984 Cost: $1,995

☐ Tri Printer Series
88-350 cps Type: Dot matrix Matrix: 17 X 16; 9 X 8 Character set: 96; 233 Printing: bidirectional Introduced: 1986 Cost: $1,-995

CITIZEN AMERICA CORP.

☐ MSP-10
160 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 80 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 1K; (optional) 8K bytes Feed: Tractor; Friction Carriage width: 10 in. Cost: $399

☐ MSP-15
160 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 136 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 1K; (optional) 8K bytes Feed: Tractor; Friction Carriage width: 16 in. Cost: $549

☐ MSP-20
200 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 80 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 8K bytes Feed: Tractor; Friction Carriage width: 10 in. Cost: $499

☐ MSP-25
200 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 136 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 8K bytes Feed: Tractor; Friction Carriage width: 16 in. Cost: $749

COMPLETE ELECTRONICS

☐ Daisywriter 2000
25 cps Type: Daisy wheel Character set: 96 Print positions: 198 Printing: bidirectional Buffer: 48K bytes Feed: Friction Carriage width: 16.5 in. Introduced: 1982 Cost: $1,195

COMPUTER DESIGNED SYSTEMS, INC.
Commercial Systems Division

☐ PB-600
600 lpm Type: Character Character set: 64; 96 Print positions: 132 Buffer: 132 bytes Feed: Tractor Carriage width: 14 in. Units sold: 2,100 since 1975 Cost: $18,000-$23,500

COMPUTER MEDICA CORP.
Medical Software Division

☐ CM 401
23 cps Type: Daisy wheel Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 5K bytes Feed: Tractor; Friction Carriage width: 14-7/8 in. Support equip: Cables; Software Units sold: 5,000 since 1983 Cost: $800

COMPUTER PRINTERS INTERNATIONAL, INC. (COMPRINT)

☐ Comprint 912-S
225 cps Type: Dot matrix Matrix: 9 X 12 Character set: 96 Print positions: 80 Buffer: 256; (optional) 2K bytes Feed: Friction Carriage width: 8.5 in. Support equip: Cables Units sold: 6,000 since 1978 Cost: $660

COMPUTER TRANSCEIVER SYSTEMS, INC.

☐ EXECUPORT 1230
140; 280 cps Type: Dot matrix Matrix: 5 X 7; 9 X 11; 5 X 11; 18 X 11; 10 X 7 Character set: 128 Print positions: 80; 41; 73; 136 Resolution: 120/240 X 96 dots per inch Printing: bidirectional Buffer: 1K; (optional) 8K; 15K bytes Feed: Friction Carriage width: 8.5 in. Support equip: Cables; Software Introduced: 1984 Cost: $1,330

COMREX INTERNATIONAL, INC.

☐ CR-II
12 cps Type: Daisy wheel Character set: 96 Print positions: 132; 110; 165 Printing: bidirectional Buffer: 5K bytes Feed: Tractor Carriage width: 13.5 in. Units sold: 21,000 since 1983 Cost: $599 (parallel); $649 (serial)

☐ CR-III
23 cps Type: Character; Daisy wheel Character set: 96 Print positions: 132; 158; 198 Printing: bidirectional Buffer: 5K bytes Feed: Friction Carriage width: 14-7/8 in. Units sold: 11,000 since 1984 Cost: $995 (parallel); $1,045 (serial)

☐ CR-420
104; 420 cps Type: Dot matrix Matrix: 8 X N Character set: 96 Print positions: 136; 163; 217 Printing: bidirectional Buffer: 18K bytes Introduced: 1984

COMTERM, INC.

☐ Model 5151-2
160 cps Type: Dot matrix Matrix: 11 X 9 Print positions: 80 Printing: bidirectional Buffer: 3K bytes Feed: Tractor; Friction Carriage width: 10 in. Introduced: 1985

☐ Model 5152-2
160 cps Type: Dot matrix Matrix: 11 X 9 Print positions: 132 Printing: bidirectional Buffer: 3K bytes Feed: Tractor; Friction Carriage width: 17 in. Introduced: 1985

CONTITRONIX, INC.

☐ CI Concorde 1100 Printer
45 cps Type: Daisy wheel Character set: 96 Print positions: 132; 158; 198 Printing: bidirectional Buffer: 1K bytes Feed: Tractor; Friction; Cut sheet Units sold: 300 since 1985 Cost: $1,095

CONTROL DATA CORP.

☐ Model 725
150 cps Type: Dot matrix Matrix: 7 X 9 Character set: 96 Print positions: 136 Cost: $2,150; Lease (mo.) —$90

COOSOL, INC.

☐ 101A-48E Mechanism
100 cps Type: Dot matrix Matrix: 5 X 7; 10 X 7; 10 X 14 Character set: 96 Print positions: 48 Printing: bidirectional Buffer: 48K bytes Units sold: 12,500 since 1980 Cost: $350

☐ 101B-80B Mechanism
600 cps Type: Dot matrix Matrix: 5 X 7; 10 X 7; 10 X 14 Character set: 96 Print positions: 80 Printing: bidirectional Buffer: 4K bytes Units sold: 2,600 since 1985 Cost: $1,865

COPAL (U.S.A.), INC.

☐ Write Hand 1200
24; 120 cps Type: Dot matrix Matrix: 9 X 9; 18 X 20 Character set: 96 Print positions: 80; 136 Resolution: 60; 120; 240; dots per inch Printing: bidirectional Buffer: 1K bytes Feed: Tractor; Friction Carriage width: 10 in. Support equip: ROM Introduced: 1984 Cost: $349

☐ Write Hand 1500
36; 180 cps Type: Dot matrix Matrix: 9 X 9; 18 X 20 Character set: 96 Print positions: 80 Resolution: 60; 120; 240 dots per inch Printing: bidirectional Buffer: 3K bytes Feed: Tractor; Friction Carriage width: 10 in. Support equip: ROM Introduced: 1984 Cost: $499

☐ Write Hand 5500
36; 180 cps Type: Dot matrix Matrix: 9 X 9 (standard); 18 X 20 Character set: 96 Print positions: 136 Resolution: 60; 120; 240 dots per inch Printing: bidirectional Buffer: 3K bytes Feed: Tractor; Friction Carriage width: 16 in. Support equip: ROM Introduced: 1985 Cost: $699

TALL TREE SYSTEMS
1120 San Antonio Road
Palo Alto, CA 94303
415-964-1980

JLASER PLUS - 2MB memory board with interfaces to the Canon IX 12 scanner and any Canon-based laser printer engine for 300 dpi resolution. Non-dedicated memory is available for conventional applications. Many software support packages are available. Some allow for 600 x 300 dpi. Stores images in memory buffer for instant printing. Fast, flexible, cost efficient.

COSMO WORLD CORP.

☐ Adeus CP2000
22 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 2K-6K bytes **Feed:** Tractor; Sheet **Carriage width:** 14 in. **Units sold:** 7,000 since 1985 **Cost:** $499

CPT CORP.

☐ CPT Matrix 1
100; 192 cps **Type:** Dot matrix **Matrix:** 16 X 11; 24 X 36 **Character set:** 127 **Print positions:** 136; 162 **Resolution:** 180 X 180; 360 X 180 dots per inch **Printing:** bidirectional **Buffer:** 4K; 256 bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 16 in. **Units sold:** 2,000 since 1983 **Cost:** $1,500-$2,000

CRADEN PERIPHERALS CORP.

☐ DP4 Document Printer
150 cps **Type:** Dot matrix **Matrix:** 9 X 9; 17 X 17 **Character set:** 128 **Print positions:** 80; 96 **Resolution:** 120 X 144 **Printing:** bidirectional **Buffer:** 1.5K bytes **Feed:** Friction **Carriage width:** 8.5 in. **Units sold:** 3,000 since 1983

CROSSTECH, INC.

☐ CTI-7180
90; 108; 154; 180 cps **Type:** Dot matrix **Matrix:** 7 X 9; 13 X 7 **Character set:** 96; 133 **Print positions:** 136; 163; 233 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Friction **Carriage width:** 15.5 in. **Cost:** $1,145-$1,295

☐ DMP-120 EX
120 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80; 96; 136 **Feed:** Friction; Sprocket **Carriage width:** 10 in. **Cost:** $399

☐ LQ-18
16; 18 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 120; 144; 180 **Printing:** bidirectional **Feed:** Tractor; Friction **Carriage width:** 13 in.

DAISY SYSTEMS HOLLAND B.V.

☐ Daisy M45-Q
35-43 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 512 bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 15 in. **Units sold:** 5,000 since 1984 **Cost:** $1,495

DATA GENERAL CORP.

☐ Model 4320
55 cps **Type:** Character **Character set:** 96 **Print positions:** 136 **Cost:** $5,900

☐ Model 4322
55 cps **Type:** Character **Character set:** 96 **Print positions:** 136 **Cost:** $8,100

☐ Model 4434
40; 80; 160 cps **Type:** Dot matrix **Resolution:** 64 X 67; 120 X 133 dots per inch **Feed:** Tractor **Introduced:** 1985 **Cost:** $895

☐ Model 4518
35 cps **Printing:** bidirectional **Feed:** Tractor; Sheet **Introduced:** 1985 **Cost:** $2,800

☐ Model 4531
40; 80; 160 cps **Type:** Dot matrix **Feed:** Tractor **Introduced:** 1985 **Cost:** $1,595

☐ Model 6042 (KSR)
30 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 128 **Print positions:** 132 **Cost:** $2,400

☐ Model 6043 (RO)
30 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 128 **Print positions:** 132 **Cost:** $2,200

☐ Model 6055 (RO)
60 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 128 **Print positions:** 132 **Cost:** $2,850

☐ Model 6215
400 lpm **Type:** Dot matrix **Print positions:** 80; 136 **Cost:** $2,995

☐ Model 6321
40 cps **Type:** Daisy wheel **Feed:** Tractor; Sheet **Introduced:** 1985 **Cost:** $2,695

DATA PRINTER CORP.
(subsidiary of Printronix, Inc.)

☐ DP1000
1,000 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132; (optional) 136 **Feed:** Tractor **Carriage width:** 18 in. **Introduced:** 1980 **Cost:** $10,875

☐ DP600
600 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132; (optional) 136 **Feed:** Tractor **Carriage width:** 18 in. **Introduced:** 1980 **Cost:** $7,855

☐ DP750
700 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132; 136 **Feed:** Tractor **Carriage width:** 18 in. **Introduced:** 1982 **Cost:** $9,385

☐ Model 1200
600; 900; 1,000; 1,200 lpm **Type:** Chain **Character set:** 48; 64; 96 **Print positions:** 132; (optional) 136 **Introduced:** 1978 **Cost:** $19,390

☐ Model 1210
1,000 lpm **Type:** Chain **Character set:** 48; 64; 96 **Print positions:** 132; (optional) 136 **Feed:** Tractor **Carriage width:** 20 in. **Introduced:** 1978 **Cost:** $16,673

☐ Model 1260
600 lpm **Type:** Chain **Character set:** 48; 64; 96 **Print positions:** 132; (optional) 136 **Feed:** Tractor **Carriage width:** 20 in. **Introduced:** 1978 **Cost:** $11,210

☐ Model 3121
600; 900; 1,000; 1,200 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132; (optional) 136 **Feed:** Tractor **Carriage width:** 18 in. **Introduced:** 1980 **Cost:** $13,350

DATA SYSTEMS HARDWARE

☐ VX031
300 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132; 136 **Feed:** Tractor **Carriage width:** 16 in. **Support equip:** Cables **Units sold:** 1,000 since 1983

☐ VX035
1,000 lpm **Type:** Character **Character set:** 48; 64; 96 **Print positions:** 132; 136 **Feed:** Tractor **Carriage width:** 16 in. **Support equip:** Cables **Units sold:** 1,000 since 1983

☐ VX157
600 lpm **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 48; 64; 96 **Print positions:** 132 **Printing:** bidirectional **Feed:** Tractor **Carriage width:** 16 in. **Support equip:** Cables **Introduced:** 1984

DATAMAXX USA CORP.

☐ FX-80
160 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 18; 11 X 9 **Character set:** 48; 64; 96; 128 **Print positions:** 40; 80; 132 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 8.5 in. **Introduced:** 1984 **Cost:** $730

DATAPOINT CORP.

☐ Model 9611
35 cps **Type:** Daisy wheel **Character set:** 72 **Print positions:** 132 **Printing:** bidirectional **Feed:** Tractor; Friction **Carriage width:** 13.3 in. **Introduced:** 1981 **Cost:** $3,295; Lease (mo.) —$160

DATAPRODUCTS CORP.

☐ DP-20
20; 22 cps **Type:** Daisy wheel **Character set:** 100 **Print positions:** 136; 163; 204 **Buffer:** 2K bytes **Feed:** Friction **Carriage width:** 15 in. **Introduced:** 1984 **Cost:** $799

☐ DP-35
35 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 196 **Printing:** bidirectional **Buffer:** 3K bytes **Units sold:** 1,000 since 1982 **Cost:** $1,795

☐ DP-55Q
50; 55 cps **Type:** Daisy wheel **Character set:** 96; 88; 92 **Print positions:** 132; 158; 196 **Printing:** bidirectional **Buffer:** (Serial) 3K; (Centronics parallel) 1.7K; (Standard) 1K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Units sold:** 25,000 since 1982 **Cost:** $2,195

☐ M-100
140 cps **Type:** Dot matrix **Matrix:** 9 X 14 **Character set:** 128 **Print positions:** 132; 218 **Printing:** bidirectional **Buffer:** 1K-4K bytes **Units sold:** 5,000 since 1982 **Cost:** $3,015

☐ Model 8012
30; 90; 180 cps **Type:** Dot matrix **Matrix:** 9 X 9; 24 X 9; 36 X 18; 24 X 14 **Character set:** 256 **Print positions:** 80 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 8 in. **Cost:** $499

☐ Model 8022
30; 90; 180 cps **Type:** Dot matrix **Matrix:** 9 X 9; 24 X 9; 36 X 18; 24 X 24 **Character set:** 256 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 13.2 in. **Cost:** $749

☐ Model 8052
40; 110; 200 cps **Type:** Dot matrix **Matrix:** 18 X 9; 24 X 9; 36 X 18; 24 X 14 **Character set:** 256 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Form **Carriage width:** 13.2 in. **Cost:** $1,499; $1,599 (color)

☐ Model 8072
100; 300; 400 cps **Type:** Dot matrix **Matrix:** 18 X 9; 24 X 9; 36 X 18; 24 X 14 **Character set:** 256 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor; Line; Form **Carriage width:** 13.2 in. **Cost:** $1,999; 2,099 (color)

☐ P-80
200 cps **Type:** Dot matrix **Matrix:** 24 X 9 **Character set:** 96 **Print positions:** 80; 132; 96 **Printing:** bidirectional **Buffer:** 1.5K bytes **Introduced:** 1982 **Cost:** $1,795

DATASOUTH COMPUTER CORP.

☐ CX-3180
180 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96 **Print positions:** 132; 158; 217 **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor **Carriage width:** 15 in. **Units sold:** 383 since 1985 **Cost:** $3,195

☐ CX-3220
220 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96 **Print positions:** 132; 158; 217 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 15 in. **Units sold:** 140 since 1985 **Cost:** $3,695

☐ Daisywheel 36
36 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 7K bytes **Feed:** Friction **Carriage width:** 15 in. **Units sold:** 128 since 1985 **Cost:** $995

☐ DS-180 Plus
180 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96 **Print positions:** 132; 158; 217 **Resolution:** 72 X 75 matrix **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor **Carriage width:** 15 in. **Units sold:** 55,432 since 1980 **Cost:** $1,395

☐ DS-220
220 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 256 **Print positions:** 132 **Resolution:** 72 X 75 matrix; 72 X 60 matrix; 72 X 120 matrix **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Units sold:** 9,278 since 1983 **Cost:** $1,695

☐ TX-5180
180 cps **Type:** Dot matrix **Matrix:** 9 X 7 **Character set:** 96 **Print positions:** 132 **Resolution:** 72 X 75 dots per inch **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor **Carriage width:** 15 in. **Units sold:** 1,573 since 1984 **Cost:** $2,995

☐ **TX-5220**
220 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96 **Print positions:** 132; 217 **Resolution:** 72 X 75 matrix **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 15 in. **Units sold:** 595 since 1985 **Cost:** $3,495

DECISION DATA COMPUTER CORP.
(division of Decision Industries Corp.)

☐ **Model 6355-01**
55 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Tractor **Carriage width:** 15 in. **Units sold:** 1,200 since 1984 **Cost:** $1,495-$4,100; Lease (mo.) —$98-$142

DENNISON MANUFACTURING CO.

☐ **Model 5102**
120 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Print positions:** 80 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $9,550

☐ **Model 5105**
350 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Print positions:** 132 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $12,750

DEREX, INC.

☐ **Derex B1000**
1,000 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132 **Feed:** Tractor **Carriage width:** 16 in. **Support equip:** Cables **Units sold:** 1,000 since 1980 **Cost:** $13,250; Lease (mo.) —$465 (3 yr.)

☐ **Derex B300**
300 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132 **Feed:** Tractor **Carriage width:** 16 in. **Support equip:** Cables **Units sold:** 1,000 since 1978 **Cost:** $6,700; Lease (mo.) —$230 (3 yr.)

☐ **Derex B600**
600 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132 **Feed:** Tractor **Carriage width:** 16 in. **Support equip:** Cables **Units sold:** 1000 since 1979 **Cost:** $8,750; Lease (mo.) —$310 (3 yr.)

☐ **Derex LW800**
800 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132 **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 18 in. **Support equip:** Cables **Units sold:** 500 since 1984 **Cost:** $7,795; Lease (mo.) —$275 (3 yr.)

☐ **Derex M200**
340 cps **Type:** Dot matrix **Matrix:** 7 X 7 **Character set:** 128 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 15 in. **Support equip:** Cables **Units sold:** 1,000 since 1979 **Cost:** $2,995; Lease (mo.) —$105 (3 yr.)

☐ **Derex 4410**
300 lpm **Type:** Line matrix **Matrix:** 9 X 18 **Character set:** 112 **Print positions:** 132; 220 **Resolution:** 140 X 144 dots per inch **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 16.5 in. **Support equip:** Cables **Units sold:** 500 since 1985 **Cost:** $5,760

☐ **Derex 4440**
600 lpm **Type:** Line matrix **Matrix:** 9 X 18 **Character set:** 112 **Print positions:** 132; 220 **Resolution:** 140 X 144 dots per inch **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 16.5 in. **Support equip:** Cables **Units sold:** 250 since 1985 **Cost:** $7,695

DI-AN CONTROLS, INC.

☐ **Model 8500**
300 cps **Type:** Drum **Character set:** 64 **Buffer:** 2K bytes **Feed:** Friction **Units sold:** 2,500 since 1973 **Cost:** $4,500

☐ **600 Movie Master**
280 cps **Type:** Drum **Character set:** 64 **Buffer:** 2K bytes **Feed:** Friction **Carriage width:** 4-5/8 in. **Support equip:** Software **Units sold:** 150 since 1983 **Cost:** $12,950

☐ **8510C Continuous Document Printer**
420 cps **Type:** Drum **Character set:** 64 **Buffer:** 2K bytes **Feed:** Friction **Units sold:** 2,000 since 1979 **Cost:** $4,200

☐ **8510H Hand Inserted Printer**
420 cps **Type:** Drum **Character set:** 64 **Buffer:** 2K bytes **Feed:** Hand **Carriage width:** 4-5/8 in. **Units sold:** 850 since 1978 **Cost:** $3,700

☐ **8525 Document Printer**
300 cps **Type:** Drum **Character set:** 64 **Buffer:** 2K bytes **Feed:** Friction **Carriage width:** 4-5/8 in. **Units sold:** 250 since 1981 **Cost:** $8,000

☐ **8526 Document Printer**
300 cps **Type:** Drum **Character set:** 64 **Buffer:** 2K bytes **Feed:** Friction **Carriage width:** 4-5/8 in. **Units sold:** 50 since 1981 **Cost:** $8,000

DIGITAL ASSOCIATES CORP.

☐ **B Series**
300; 600; 1,000 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132; (optional) 136 **Feed:** Tractor **Carriage width:** 16 in. **Units sold:** 400 since 1980

☐ **L-800**
400; 800 lpm **Type:** Band **Character set:** 48; 64; 96; 128 **Print positions:** 132; 198; (optional) 136 **Feed:** Tractor **Carriage width:** 18 in. **Units sold:** 50 since 1983

☐ **1200 Series**
600; 1,000; 1,200 lpm **Type:** Chain **Character set:** 48; 64; 96; 128 **Print positions:** 132; 136 **Units sold:** 1,400 since 1979

☐ **9380E Series**
600; 1,200; 1,800 lpm **Type:** Band **Character set:** 48; 64; 96; 128 **Print positions:** 132 **Feed:** Tractor **Units sold:** 400 since 1981

DIGITAL EQUIPMENT CORP.

☐ **LA100 Letterprinter/Letterwriter 100**
40; 80; 240 cps **Type:** Dot matrix **Matrix:** 7 X 9; 33 X 9; 33 X 18 **Character set:** 94 **Print positions:** 132 **Resolution:** 73 X 333 dots per inch **Feed:** Friction **Carriage width:** 14 in. **Introduced:** 1984 **Cost:** $2,295

☐ **LA210**
30; 80; 240 cps **Type:** Dot matrix **Matrix:** 7 X 9; 33 X 18; 33 X 9 **Character set:** 217 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction; Pin **Carriage width:** 14.9 in. **Introduced:** 1984 **Cost:** $1,595

☐ **LA50 Personal Printer**
50; 100 cps **Type:** Dot matrix **Matrix:** 7 X 9; 13 X 9 **Character set:** 94 **Print positions:** 80; 132; 96 **Buffer:** 255 bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Introduced:** 1983 **Cost:** $695

☐ **LQP03**
25; 34 cps **Type:** Daisy wheel **Character set:** 130 **Print positions:** 132; 110; 165 **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Tractor; Friction **Carriage width:** 14 in. **Cost:** $1,395

DIGITAL MATRIX CORP.

☐ **Durawriter 9/132**
165 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 132 **Resolution:** 72 X 72 dots per inch **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor **Carriage width:** 16 in. **Units sold:** 10,000 since 1981 **Cost:** $1,295

☐ **Durawriter 9/80**
150 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80 **Resolution:** 72 X 72 dots per inch **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor **Carriage width:** 10 in. **Units sold:** 1,000 since 1981 **Cost:** $1,050

☐ **Formwriter 9/132**
165 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18; X 19 **Character set:** 96 **Print positions:** 132 **Resolution:** 72 X 72 dots per inch **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor **Carriage width:** 16 in. **Units sold:** 1,000 since 1984 **Cost:** $2,000

☐ **Formwriter 9/80**
150 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80; 132; 96 **Resolution:** 72 X 72 dots per inch **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor **Carriage width:** 10 in. **Units sold:** 1,000 since 1984 **Cost:** $1,730

DIGITAL TECH

☐ **Model 250**
250 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96; 128 **Print positions:** 80; 132 **Printing:** bidirectional **Buffer:** 5K bytes **Feed:** Tractor; Friction **Carriage width:** 10.5 in. **Units sold:** 1,-250 since 1984 **Cost:** $1,595

DIGITEC CORP.

☐ **Model 6320**
120 lpm **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 21; 32 **Introduced:** 1978 **Cost:** $995

☐ **Model 6430**
64 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 21; (optional) 32 **Buffer:** 35 bytes **Feed:** Friction **Introduced:** 1981 **Cost:** $438

☐ **Model 6431**
64 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 21; (optional) 32 **Buffer:** 35 bytes **Introduced:** 1983 **Cost:** $592

☐ **Model 6472**
50 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 21 **Buffer:** 35 bytes **Introduced:** 1983 **Cost:** $644

☐ **Model 6473**
50 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 21 **Buffer:** 35 bytes **Introduced:** 1983 **Cost:** $525

☐ **Model 6474**
50 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 21 **Buffer:** 35 bytes **Introduced:** 1983 **Cost:** $525

☐ **Model 6510**
64 cps **Type:** Character **Character set:** 64 **Print positions:** 21; (optional) 32 **Buffer:** 35 bytes **Introduced:** 1980 **Cost:** $525

☐ **Model 6520**
64 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 21; (optional) 32 **Buffer:** 35 bytes **Introduced:** 1980 **Cost:** $575

☐ **Model 6550**
42 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 21 **Buffer:** 35 bytes **Introduced:** 1980 **Cost:** $595

☐ **Model 6560**
42 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 21 **Buffer:** 35 bytes **Introduced:** 1980 **Cost:** $595

☐ **Model 6610A**
17 cps **Type:** Dot matrix **Matrix:** 5 X 9 **Character set:** 95 **Print positions:** 24 **Printing:** bidirectional **Buffer:** 50; (optional) 2K bytes **Feed:** Friction **Introduced:** 1983 **Cost:** $448

☐ **Model 6611**
17 cps **Type:** Dot matrix **Matrix:** 5 X 9 **Character set:** 95 **Print positions:** 24 **Printing:** bidirectional **Buffer:** 50; (optional) 2K bytes **Feed:** Friction **Introduced:** 1983 **Cost:** $567

☐ **Model 6620**
17 cps **Type:** Dot matrix **Matrix:** 5 X 9 **Character set:** 95 **Print positions:** 24 **Printing:** bidirectional **Buffer:** 50; (optional) 2K bytes **Feed:** Friction **Introduced:** 1983 **Cost:** $448

☐ **Model 6630A**
17 cps **Type:** Dot matrix **Matrix:** 5 X 9 **Print positions:** 16-22 **Printing:** bidirectional **Buffer:** 50; (optional) 2K bytes **Feed:** Friction **Introduced:** 1983 **Cost:** $510

DYNAX, INC.

☐ DH-45
36; 140 cps **Type:** Dot matrix; Daisy wheel **Matrix:** 8 X 12; 8 X 6; 24 X 24; 24 X 12 **Print positions:** 136 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 16.5 in. **Introduced:** 1985 **Cost:** $1,295

☐ DM-20
30; 80; 160 cps **Type:** Dot matrix **Matrix:** 9 X 8; 17 X 16 **Character set:** 96 **Print positions:** 132; 158; 220 **Resolution:** 240 dots per inch **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Introduced:** 1984 **Cost:** $699

☐ DM-40
80; 160 cps **Type:** Dot matrix **Matrix:** 24 X N **Character set:** 96 **Print positions:** 136; 163; 244 **Resolution:** 180 dots per inch **Printing:** bidirectional **Feed:** Tractor; Friction; Sheet **Carriage width:** 15.5 in. **Introduced:** 1985 **Cost:** $1,295

☐ DM-5
50 cps **Type:** Dot matrix **Matrix:** 9 X 9; 8 X 6 **Character set:** 96 **Print positions:** 40; 80; 132 **Resolution:** 240 dots per inch **Printing:** bidirectional **Feed:** Friction; (optional) Tractor **Carriage width:** 8.5 in. **Introduced:** 1985 **Cost:** $235

☐ DX-15XL
20 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 110; 165 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 13.5 in. **Introduced:** 1983 **Cost:** $599

☐ DX-25
23 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 7K bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 16.6 in. **Introduced:** 1985 **Cost:** $645

☐ DX-5 (Battery Powered)
30 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80 **Resolution:** 60 dots per inch **Printing:** bidirectional **Feed:** Friction **Carriage width:** 8.5 in. **Introduced:** 1984 **Cost:** $199

EATON CORP.

☐ Model 7000
50 cps **Type:** Dot matrix **Matrix:** 7 X 7 **Character set:** 96 **Print positions:** 40; 64 **Buffer:** 200 bytes **Feed:** Friction **Carriage width:** 3-7/8 in. **Support equip:** Cables **Units sold:** 15,000 since 1980 **Cost:** $425

☐ 4000 Document Printer
120 cps **Type:** Dot matrix **Matrix:** 9 X 7 **Character set:** 96 **Print positions:** 40 **Printing:** bidirectional **Buffer:** 1K bytes **Feed:** Friction **Carriage width:** 3-7/8 in. **Support equip:** Cables **Units sold:** 2,000 since 1984 **Cost:** $985

☐ 4110 Document Printer
120 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 96 **Print positions:** 40 **Printing:** bidirectional **Buffer:** 1K bytes **Feed:** Friction **Carriage width:** 3-7/8 in. **Support equip:** Cables **Units sold:** 2,000 since 1984 **Cost:** $1,085

EF INDUSTRIES

☐ DTC 200 RO
200 cps **Type:** Dot matrix **Matrix:** 5 X 9 **Character set:** 96 **Print positions:** 132 **Units sold:** 286 since 1978

☐ DTC 302 RO
45 cps **Type:** Daisy wheel **Character set:** 96 **Units sold:** 620 since 1977

☐ DTC 380Z
32 cps **Type:** Daisy wheel **Character set:** 96 **Printing:** bidirectional **Cost:** $1,359

☐ DTC 450Z
45 cps **Type:** Daisy wheel **Character set:** 100 **Printing:** bidirectional **Buffer:** 16K; (optional) 64K bytes **Introduced:** 1984

EPSON AMERICA, INC.

☐ ComRiter 420
104; 420 cps **Type:** Dot matrix **Character set:** 96 **Buffer:** 18K bytes **Feed:** Friction; Pin **Carriage width:** 16 in.

☐ CTM Series
160 cps **Type:** Dot matrix **Matrix:** 9 X 9; 11 X 18; 18 X 9; 18 X 18 **Character set:** 96; 32 **Print positions:** 80; 136 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction; Pin **Carriage width:** 16 in. **Introduced:** 1984

☐ EX-1000
60; 300 cps **Type:** Dot matrix **Matrix:** N X 9 **Character set:** 95 **Print positions:** 136; 272 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $995

☐ EX-800
60; 300 cps **Type:** Dot matrix **Matrix:** N X 9 **Character set:** 95 **Print positions:** 80; 160 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $749

☐ FX-80
Reviewed Sep/Oct 1983 p. 125.
160 cps **Type:** Dot matrix **Matrix:** 9 X 9; 11 X 18; 18 X 9; 18 X 18 **Character set:** 256 **Print positions:** 80 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Sprocket; (optional) Tractor; Friction **Carriage width:** 10 in. **Introduced:** 1982 **Cost:** $699

☐ FX-85/185
32; 160 cps **Type:** Dot matrix **Character set:** 96 **Printing:** bidirectional **Buffer:** 8K; (optional) 32K bytes **Feed:** Tractor; Friction; Pin **Carriage width:** 16 in.

☐ HomeWriter 10
16; 100 cps **Type:** Dot matrix **Print positions:** 80 **Printing:** bidirectional **Buffer:** 1K bytes **Feed:** Friction; (optional) Tractor; Cut sheet **Introduced:** 1985 **Cost:** $269

☐ HS-80
30; 160; 192 cps **Type:** Ink jet **Character set:** 96 **Print positions:** 80; 136; 160 **Printing:** bidirectional **Buffer:** 1K bytes **Feed:** Friction **Carriage width:** 8.5 in. **Introduced:** 1985

☐ JX-80 Color Printer
160 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 18 **Character set:** 96; 32 **Print positions:** 40; 80; 137 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Friction; Pin; (optional) Tractor **Carriage width:** 10 in. **Introduced:** 1984

☐ LQ-1000
60; 180 cps **Type:** Dot matrix **Character set:** 96 **Print positions:** 136 **Printing:** bidirectional **Cost:** $995

☐ LQ-1500
60-200 cps **Type:** Dot matrix **Matrix:** 9 X 17; 37 X 17 **Character set:** 96 **Print positions:** 136 **Printing:** bidirectional **Buffer:** 15K bytes **Feed:** Tractor; Friction **Introduced:** 1983

☐ LQ-2500
135; 405 cps **Type:** Dot matrix **Matrix:** N X 24 **Character set:** 95 **Print positions:** 136; 544 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $1,595

☐ LQ-800
60; 180 cps **Type:** Dot matrix **Character set:** 96 **Print positions:** 80 **Printing:** bidirectional **Cost:** $799

☐ LX-90
16; 100 cps **Type:** Dot matrix **Print positions:** 40; 80; 132 **Feed:** Tractor; Friction; (optional) Sheet **Carriage width:** 11 in. **Introduced:** 1985

☐ P-40
45 cps **Type:** Dot matrix **Character set:** 96 **Print positions:** 40; 80; 72 **Carriage width:** 4.4 in. **Introduced:** 1984

☐ P-80 (Portable)
45 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 95 **Print positions:** 40; 80; 160 **Feed:** Friction **Carriage width:** 8.5 in. **Introduced:** 1985 **Cost:** $249

☐ RX-100 Plus
100 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 18 **Character set:** 96 **Print positions:** 68-233 **Printing:** bidirectional **Buffer:** 2K bytes **Introduced:** 1984

☐ SQ-2000
176 cps **Type:** Inkjet **Character set:** 96; 32 **Print positions:** 136 **Printing:** bidirectional **Buffer:** 15K bytes **Feed:** Tractor; Friction **Introduced:** 1984

FACIT, INC.

☐ C5500
250 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 9 **Character set:** 288 **Print positions:** 136 **Resolution:** 144 dots per inch **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Introduced:** 1985 **Cost:** $1,595

☐ C7500
100; 400 cps **Type:** Dot matrix **Matrix:** 9 X 5; 18 X 17 **Character set:** 288 **Print positions:** 136 **Resolution:** 216 X 288 matrix **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Introduced:** 1985 **Cost:** $2,495

☐ D2000
24; 30 cps **Type:** Daisy wheel **Print positions:** 116 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $695

☐ Model 4509
120 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 256 **Print positions:** 80 **Resolution:** 240 X 216 matrix **Printing:** bidirectional **Buffer:** 248 bytes **Feed:** Tractor **Carriage width:** 11 in. **Introduced:** 1985 **Cost:** $425

☐ Model 4510
120 cps **Type:** Dot matrix **Matrix:** 9 X 9; 9 X 15 **Character set:** 96 **Print positions:** 80 **Resolution:** 200 X 144 matrix **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Friction; Tractor **Carriage width:** 11 in. **Units sold:** 30,000 since 1982 **Cost:** $595

☐ Model 4511
160 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 17 **Character set:** 96 **Print positions:** 80 **Resolution:** 200 X 216 matrix **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction; Roll **Carriage width:** 11 in. **Units sold:** 5,000 since 1984 **Cost:** $595

☐ Model 4512
160 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 17 **Character set:** 96 **Print positions:** 80; 132 **Resolution:** 200 X 216 matrix **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Units sold:** 5,000 since 1983 **Cost:** $845

☐ Model 4513
160 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 17 **Character set:** 96 **Print positions:** 80 **Resolution:** 240 X 216 matrix **Printing:** bidirectional **Buffer:** 2K (expandable) bytes **Feed:** Tractor; Friction **Carriage width:** 11 in. **Introduced:** 1985 **Cost:** $695

☐ Model 4514
160 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 17 **Character set:** 96 **Print positions:** 132 **Resolution:** 240 X 216 matrix **Printing:** bidirectional **Buffer:** 2K (expandable) bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Introduced:** 1985 **Cost:** $895

☐ Model 4528D
165; 285 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80; 136 **Resolution:** 120 dots per inch **Printing:** bidirectional **Buffer:** 6K bytes **Feed:** Tractor **Carriage width:** 15 in. **Introduced:** 1984 **Cost:** $1,695 (80 column); $1,775 (136 column)

☐ Model 4528T
165; 285 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80; 136 **Resolution:** 120 dots per inch **Printing:** bidirectional **Buffer:** 512; (optional) 2K bytes **Feed:** Tractor **Carriage width:** 15 in. **Introduced:** 1983 **Cost:** $975 (80 column); $1,165 (136 column)

☐ **Model 4528V**
165; 285 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80; 136 **Resolution:** 120 dots per inch **Printing:** bidirectional **Buffer:** 512; (optional) 6K bytes **Feed:** Tractor **Carriage width:** 15 in. **Introduced:** 1983 **Cost:** $1,545 (80 column); $1,595 (136 column)

☐ **Model 4542**
250 cps **Type:** Dot matrix **Matrix:** 9 X 14 **Character set:** 256; 512 **Print positions:** 150 **Resolution:** 140 dots per inch **Printing:** bidirectional **Buffer:** 766; (optional) 8K bytes **Feed:** Tractor **Carriage width:** 15 in. **Introduced:** 1981 **Cost:** $2,725

☐ **Model 4544 Color Printer**
225 cps **Type:** Dot matrix **Matrix:** 9 X 14 **Character set:** 256; 512 **Print positions:** 150 **Resolution:** 140 dots per inch **Printing:** bidirectional **Buffer:** 4K; (optional) 8K bytes **Feed:** Tractor **Carriage width:** 15 in. **Introduced:** 1982 **Cost:** $3,275

☐ **Model 4565**
40 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 136 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Friction; (optional) Tractor **Carriage width:** 16 in. **Introduced:** 1983 **Cost:** $1,195

☐ **Model 4565P**
38; 40 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 136 **Introduced:** 1985 **Cost:** $1,195

FLORIDA DATA CORP.

☐ **OSP/130**
100; 150; 600 cps **Type:** Dot matrix **Matrix:** 8 X 12; 12 X 36 **Character set:** 192 **Print positions:** 132; 237 **Resolution:** 45-360 dots per inch **Printing:** bidirectional **Buffer:** 2K; 2.5K bytes **Feed:** Tractor; Cut sheet **Carriage width:** 15 in. **Support equip:** Software **Units sold:** 10,000 since 1981 **Cost:** $3,995

☐ **OSP/3000**
200; 675 cps **Type:** Dot matrix **Matrix:** 8 X 12; 12 X 36 **Character set:** 192 **Print positions:** 132; 237 **Resolution:** 360 X 384 dots per inch **Printing:** bidirectional **Buffer:** 2.5 bytes **Feed:** Tractor **Carriage width:** 15 in. **Support equip:** Software **Units sold:** 3,060 since 1983 **Cost:** $3,495

JOHN FLUKE MANUFACTURING CO., INC.

☐ **Model 2020A**
180 lpm **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 20 **Buffer:** 32 bytes **Feed:** Friction; Belt drive **Carriage width:** 2.5 in. **Units sold:** 2,000 since 1979 **Cost:** $875

FUJITSU AMERICA, INC.
Storage & Peripheral Products Division

☐ **DaisyMax 830**
80 cps **Type:** Daisy wheel **Character set:** 96; 127 **Print positions:** 136; 163 **Printing:** bidirectional **Buffer:** 1K; (optional) 2K bytes **Feed:** Tractor; Friction; Cut sheet **Carriage width:** 16 in. **Introduced:** 1981 **Cost:** $2,295

☐ **DL2400; DL2400 Color**
60; 180 cps **Type:** Dot matrix **Matrix:** 24 X 36 **Character set:** 48; 96; 16; 31; 36 **Print positions:** 136; 163; 244 **Resolution:** 360 X 180 dots per inch **Printing:** bidirectional **Buffer:** 8K bytes **Feed:** Tractor **Carriage width:** 16 in. **Introduced:** 1985 **Cost:** $1,155; $1,355 (Color)

☐ **DotMax 24**
80; 160; 240 cps **Type:** Dot matrix **Matrix:** 24 X 36 **Character set:** 96 **Print positions:** 136; 163; 244 **Resolution:** 360 X 180 dots per inch **Printing:** bidirectional **Buffer:** 4K; 2K bytes **Feed:** Tractor; Friction; Cut sheet **Carriage width:** 16 in. **Introduced:** 1984 **Cost:** $1,495

☐ **DotMax 24I**
80; 240 cps **Type:** Dot matrix **Matrix:** 24 X 36 **Character set:** 96 **Print positions:** 136; 163; 244 **Resolution:** 360 X 180 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 16 in. **Introduced:** 1985 **Cost:** $1,495

☐ **DX2100/DX2200**
44; 220 cps **Type:** Dot matrix **Matrix:** 18 X 16 **Character set:** 96; 32 **Print positions:** 80; 96; 137 **Resolution:** 180 dots per inch **Printing:** bidirectional **Buffer:** 10K (DX2100); 8K (DX2200) bytes **Feed:** Tractor; Friction **Carriage width:** 10.5 (DX2100); 16.5 (DX2200) in. **Introduced:** 1985 **Cost:** $495 (DX2100); $645 (DX2200)

☐ **M3040**
160; 210; 300; 390 lpm **Type:** Band **Character set:** 48; 64; 96; 128; 192 (optional) **Print positions:** 132; 136 **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 17 in. **Introduced:** 1984 **Cost:** $6,435

☐ **M3041**
330; 420; 600; 750 lpm **Type:** Band **Character set:** 48; 64; 96; 128; 192 (optional) **Print positions:** 136 **Buffer:** 80; 132; 136; 2K bytes **Feed:** Tractor **Carriage width:** 17 in. **Introduced:** 1984 **Cost:** $7,735

☐ **M3042**
530; 670; 900; 1,090 lpm **Type:** Band **Character set:** 48; 64; 96; (optional) 128 **Print positions:** 136 **Buffer:** 80; 132; 136; 2K bytes **Feed:** Tractor **Carriage width:** 17 in. **Introduced:** 1984 **Cost:** $11,635

☐ **M3043**
880; 1,200; 1,420 lpm **Type:** Band **Character set:** 48; 64; 96; 128; 192 (optional) **Print positions:** 136 **Buffer:** 80; 132; 136; 2K bytes **Feed:** Tractor **Carriage width:** 17 in. **Introduced:** 1984 **Cost:** $15,860

☐ **SP320E**
48 cps **Type:** Daisy wheel **Character set:** 96; 127; 192 **Print positions:** 136; 163 **Printing:** bidirectional **Introduced:** 1984 **Cost:** $1,295

GENERAL BUSINESS TECHNOLOGY, INC.

☐ **GBT 5205WP**
55 cps **Type:** Thimble **Character set:** 128 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Friction **Carriage width:** 16 in. **Support equip:** Cables **Introduced:** 1980 **Cost:** $4,295; Lease (mo.) —$173

☐ **GBT 5227FA**
120 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80; 132 **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Pin **Carriage width:** 9 in. **Support equip:** Cables **Introduced:** 1985 **Cost:** $1,995; Lease (mo.) —$74

GENICOM CORP.

☐ **Model 1020; 1025**
100; 200 cps **Type:** Dot matrix **Matrix:** 9 X 9; 35 X 18 **Character set:** 256 **Print positions:** 80; 136 **Resolution:** 240 X 144 dots per inch **Printing:** bidirectional **Buffer:** 2K; (optional) 8K; 64K bytes **Feed:** Tractor; Friction **Carriage width:** 10; 16 in. **Introduced:** 1986 **Cost:** $899 (Model 1020); $699 (Model 1025)

☐ **Model 3210**
60; 240 cps **Type:** Dot matrix **Matrix:** 9 X 9; 9 X 18 **Character set:** 228 **Print positions:** 132 **Resolution:** 60 X 144 dots per inch; 204 X 144 matrix **Printing:** bidirectional **Buffer:** 2K; (optional) 8K bytes **Feed:** Tractor; Friction **Carriage width:** 15.5 in. **Introduced:** 1985 **Cost:** $1,495

☐ **Model 3310; 3310 Color**
90; 300 cps **Type:** Dot matrix **Matrix:** 21 X 18; 9 X 9 **Character set:** 228 **Print positions:** 136 **Resolution:** 144 X 144; (optional) 288 X 144 dots per inch **Printing:** bidirectional **Buffer:** 512; (optional) 6K bytes **Feed:** Dual 6 pin tractor **Carriage width:** 15.5 in. **Introduced:** 1985 **Cost:** $1,995 (Model 3310); $2,295 (Color)

☐ **Model 3320/Quiet**
180; 300 cps **Type:** Dot matrix **Matrix:** 21 X 18; 9 X 9 **Character set:** 228 **Print positions:** 136 **Resolution:** 144 X 144; (optional) 288 X 144 dots per inch **Printing:** bidirectional **Buffer:** 512; (optional) 6K bytes **Feed:** Dual 6 pin push tractor **Carriage width:** 15.5 in. **Introduced:** 1985 **Cost:** $2,395

☐ **Model 3410/Quiet**
120; 400 cps **Type:** Dot matrix **Matrix:** 9 X 18; 9 X 9 **Character set:** 228 **Print positions:** 136 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 512 bytes **Feed:** Tractor **Carriage width:** 15.5 in. **Introduced:** 1985 **Cost:** $2,450 (Model 3410); $2,645 (Quiet)

☐ **Model 4410 Shuttle Matrix Printer**
400 lpm **Type:** Shuttle matrix **Matrix:** 9 X 9; 5 X 9; 9 X 18 **Character set:** 192 **Print positions:** 132 **Resolution:** 210 X 144 dots per inch **Printing:** bidirectional **Buffer:** 2K; (optional) 10K bytes **Feed:** 6 pin tractor **Carriage width:** 16.54 in. **Introduced:** 1984 **Cost:** $6,195

☐ **Model 4440 Shuttle Matrix Printer**
800 lpm **Type:** Shuttle matrix **Matrix:** 9 X 9; 5 X 9; 9 X 18 **Character set:** 96 **Print positions:** 132 **Resolution:** 210 X 144 dots per inch **Printing:** bidirectional **Buffer:** 2K; (optional) 10K bytes **Feed:** 6 pin tractor **Carriage width:** 16.54 in. **Introduced:** 1984 **Cost:** $7,795

GLOBAL TURNKEY SYSTEMS, INC.

☐ **1000B Band Printer**
1,000 lpm **Type:** Band **Character set:** 64 **Print positions:** 131 **Buffer:** 131 bytes **Units sold:** 5 since 1983

☐ **300B Band Printer**
300 lpm **Type:** Band **Character set:** 64 **Print positions:** 131 **Buffer:** 131 bytes **Units sold:** 100 since 1983

☐ **36S Video Display Printer**
36 lpm **Type:** Dot matrix **Matrix:** 7 X 7 **Print positions:** 80 **Printing:** bidirectional **Buffer:** 1K bytes **Units sold:** 19 since 1983

☐ **600B Band Printer**
600 lpm **Type:** Band **Character set:** 64 **Print positions:** 131 **Buffer:** 131 bytes **Units sold:** 50 since 1983

☐ **64LPM Matrix Printer**
450 lpm **Type:** Dot matrix **Matrix:** 9 X 7 **Print positions:** 131 **Printing:** bidirectional **Buffer:** 256 bytes **Units sold:** 45 since 1983

HARRIS/LANIER
(formerly Lanier Business Products, Inc.)

☐ **1300-L**
27 cps **Type:** Character **Character set:** 124 **Print positions:** 137; 164 **Printing:** bidirectional **Feed:** Tractor; Friction; Sheet; (optional) Envelope **Carriage width:** 15 in. **Introduced:** 1983 **Cost:** $1,170

HERMES PRODUCTS, INC.

☐ **PC-Printer 1-3**
100; 200; 400 cps **Type:** Dot matrix **Matrix:** 9 X 12; 18 X 36 **Print positions:** 132; 158; 198; 237 **Printing:** bidirectional **Feed:** Tractor; Roll; Sheet **Cost:** $2,120; 2,220

☐ **PC-Printer 2-4**
100; 200; 400 cps **Type:** Dot matrix **Print positions:** 132; 158; 198; 237 **Printing:** bidirectional **Feed:** Tractor **Cost:** $2,220; 2,350

☐ **Printer 612/612-T**
100; 200; 240; 400; 480 cps **Type:** Dot matrix **Character set:** 96; 221 **Print positions:** 132; 158; 198; 237 **Resolution:** 72 X 144 dots per inch **Printing:** bidirectional **Feed:** Tractor; Roll; Sheet **Cost:** $2,495

☐ **Printer 616/616-T**
100; 150; 400 cps **Type:** Dot matrix **Matrix:** 9 X 12; 18 X 36 **Character set:** 96 **Print positions:** 132; 158; 198; 237; 264 **Resolution:** 45 X 120; 90 X 240; 72 X 144 dots per inch **Printing:** bidirectional **Buffer:** 2K; (optional) 10K; 18K; 26K bytes **Feed:** Tractor; optional) Roll; Sheet **Cost:** $2,810

HETRA COMPUTER AND COMMUNICATIONS INDUSTRIES, INC.

☐ Model 3100-H3
300 lpm **Type:** Band **Character set:** 48; 64; 96; 120 **Print positions:** 132; 136 **Feed:** Pin **Carriage width:** 18 in. **Units sold:** 50 since 1980 **Cost:** $8,000

☐ Model 3100-H6
600 lpm **Type:** Band **Character set:** 48; 64; 96; 120 **Print positions:** 132; 136 **Feed:** Pin **Carriage width:** 18 in. **Units sold:** 100 since 1980 **Cost:** $9,000

☐ Model 3300-H0
1000 lpm **Type:** Band; Chain **Character set:** 48; 64; 96; 128 **Print positions:** 132; 136 **Feed:** Pin **Carriage width:** 19 in. **Units sold:** 400 since 1979 **Cost:** $12,000

☐ Model 3300-H12
1,200 lpm **Type:** Band; Chain **Character set:** 48; 64; 96; 128 **Print positions:** 132; 136 **Feed:** Pin **Carriage width:** 19 in. **Units sold:** 500 since 1979 **Cost:** $13,000

☐ Model 3300-H6
600 lpm **Type:** Band; Chain **Character set:** 48; 64; 96; 128 **Print positions:** 132; 136 **Feed:** Pin **Carriage width:** 19 in. **Units sold:** 500 since 1979 **Cost:** $11,000

HEWLETT-PACKARD CO.

☐ HP QuietJet Plus
40; 160; 192 cps **Type:** Inkjet **Introduced:** 1986 **Cost:** $799

☐ HP 2563A
300 lpm **Type:** Dot matrix **Matrix:** 5 X 7; 5 X 9 **Print positions:** 132; 66 **Introduced:** 1983

☐ HP 2603A
45; 48 cps **Type:** Daisy wheel **Print positions:** 132; 158; 198 **Printing:** bidirectional **Feed:** Tractor; Friction; Sheet **Carriage width:** 14-7/8 in. **Introduced:** 1985 **Cost:** $1,495

☐ HP 2932A
200 cps **Type:** Dot matrix **Matrix:** 9 X 12 **Character set:** 64; 96; 128 **Print positions:** 68; 136; 223 **Printing:** bidirectional **Buffer:** 2K bytes **Introduced:** 1983

HEXACE TECHNOLOGIES, INC.

☐ Hexace 120/160
120; 160 cps **Type:** Dot matrix **Character set:** 96 **Print positions:** 120; 160 **Printing:** bidirectional **Buffer:** 2K; 16K bytes **Feed:** Tractor; Friction **Carriage width:** 10; 15 in. **Units sold:** 1,000; 500 since 1985 **Cost:** $299; $399

HONEYWELL INFORMATION SYSTEMS ITALIA

☐ Model 34 CQ
60; 200; 270 cps **Type:** Dot matrix **Matrix:** 11 X 9; 60 X 18 **Print positions:** 132; 226 **Printing:** bidirectional

☐ Model 36 CQ
60; 200; 300 cps **Type:** Dot matrix **Matrix:** 7 X 9; 11 X 9; 60 X 18 **Print positions:** 132; 226 **Printing:** bidirectional

☐ Model 4/66
75; 180; 480 cps **Type:** Dot matrix **Matrix:** 11 X 9; 36 X 9; 36 X 18 **Print positions:** 136; 233

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Color Jetprinter
30; 50 cps **Type:** Inkjet **Print positions:** 132 **Printing:** bidirectional **Carriage width:** 8.5 in. **Cost:** $745

☐ Model 3615-1
60 cps **Type:** Dot matrix **Character set:** User-defined **Print positions:** 132 **Introduced:** 1977 **Cost:** $3,985; Lease (mo.) —$220

☐ Model 3615-2
120 cps **Type:** Dot matrix **Character set:** User-defined **Print positions:** 132 **Introduced:** 1977 **Cost:** $4,380; Lease (mo.) —$255

☐ Model 3618-1
155 lpm **Character set:** 48; 64; 96 **Print positions:** 80; 132 **Introduced:** 1977 **Cost:** $12,260; Lease (mo.) —$435

☐ Model 4234
120; 300; 410 lpm **Type:** Band **Resolution:** 45 X 72; 90 X 96 dots per inch **Carriage width:** 16 in. **Units sold:** 1986 **Cost:** $8,800

☐ Model 4245-D12, T12
1,200 lpm **Type:** Band **Introduced:** 1986 **Cost:** $28,000-$31,000

☐ Model 4245-D20, T20
2,000 lpm **Type:** Band **Introduced:** 1986 **Cost:** $35,000

☐ Model 4245-12
1,200 lpm **Type:** Band **Introduced:** 1985 **Cost:** $28,000

☐ Model 4245-20
2,000 lpm **Type:** Band **Introduced:** 1985 **Cost:** $35,000

☐ Model 5201-1 Quietwriter
Reviewed Apr 1985 p. 49.
40-60 cps **Type:** Non-impact **Character set:** 252 **Feed:** Pinwheel **Carriage width:** 15 in. **Introduced:** 1984 **Cost:** $1,395

☐ Model 5216-2 Wheelprinter
Reviewed Apr 1985 p. 49.
25 cps **Type:** Printwheel **Character set:** 96 **Printing:** bidirectional **Feed:** Cut sheet **Carriage width:** 15.4 in. **Introduced:** 1984 **Cost:** $1,795

☐ Model 5218
40; 60 cps **Type:** Printwheel **Character set:** 96 **Printing:** bidirectional **Cost:** $2,460-$3,680

☐ Model 5223
16 cps **Feed:** Sheet; Pin **Carriage width:** 15 in. **Cost:** $699

☐ Model 6410
90 lpm **Type:** Dot matrix **Matrix:** 7 X 7; (optional) 9 X 9 **Character set:** 128 **Print positions:** 80 **Cost:** $2,200

☐ Model 6425
240 lpm **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 128 **Print positions:** 80

☐ PC Compact Printer
Reviewed Sep 1984 p. 65.
50 cps **Type:** Dot matrix **Matrix:** 5 X 8 **Character set:** 128; 191 **Print positions:** 40; 80; 68; 136 **Introduced:** 1983 **Cost:** $175

☐ Personal Computer Color Printer
Reviewed Sep 1984 p. 65.
200 cps **Type:** Dot matrix **Matrix:** 9 X N **Character set:** 96 **Printing:** bidirectional **Introduced:** 1983 **Cost:** $1,995

☐ Proprinter
40; 100; 200 cps **Type:** Dot matrix **Cost:** $549

☐ Proprinter XL
40; 100; 200 cps **Type:** Dot matrix **Matrix:** N X 9 **Introduced:** 1986 **Cost:** $799

☐ Quietwriter Model 2
40; 48; 60 cps **Resolution:** 240 X 240 matrix **Introduced:** 1985 **Cost:** $1,595

☐ Wheelprinter E
16 cps **Type:** Daisy wheel **Introduced:** 1985 **Cost:** $699

ICS
(division of Action Instruments)

☐ Model 6531-PR
100 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 80 **Printing:** bidirectional **Buffer:** 8K bytes **Cost:** $1,-695

INDTECH, INC.

☐ Model 8287-1
200 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 94 **Print positions:** 136 **Printing:** bidirectional **Buffer:** 256 bytes **Units sold:** 25 since 1982 **Cost:** $3,760

☐ Model 8287-3
180 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96 **Print positions:** 136 **Printing:** bidirectional **Buffer:** 512 bytes **Units sold:** 25 since 1982 **Cost:** $2,812

INFOSCRIBE, INC.

☐ Model 1000
40; 100; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 14 X 9; 24 X 18 **Character set:** 96 **Print positions:** 136; 163; 224 **Resolution:** 72 X 72 dots per inch **Printing:** bidirectional **Buffer:** 3.5K bytes **Feed:** Tractor **Carriage width:** 14-7/8 in. **Units sold:** 8,000 since 1981 **Cost:** $1,390

☐ Model 1100
40; 100; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 14 X 9; 24 X 18 **Character set:** 96 **Print positions:** 136 **Resolution:** 72 X 72; 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 3.5K bytes **Feed:** Tractor; (optional) Friction **Carriage width:** 14-7/8 in. **Units sold:** 4,000 since 1983 **Cost:** $1,767

☐ Model 1200 Color Printer
40; 100; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 14 X 9; 24 X 18 **Character set:** 96 **Print positions:** 132 **Resolution:** 72 X 72; 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 3.5K bytes **Feed:** Tractor **Carriage width:** 16 in. **Units sold:** 1,000 since 1983 **Cost:** $1,995

☐ Model 1400
80; 200; 400 cps **Type:** Dot matrix **Matrix:** 7 X 9; 14 X 9; 24 X 18 **Character set:** 96 **Print positions:** 136 **Resolution:** 72 X 72; 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 3.5K bytes **Feed:** Tractor; (optional) Friction **Carriage width:** 14-7/8 in. **Introduced:** 1986 **Cost:** $1,845

☐ Model 143X
80; 200; 400 cps **Type:** Dot matrix **Matrix:** 7 X 9; 24 X 18 **Character set:** 96 **Print positions:** 136; 163; 224 **Resolution:** 72 X 72; 144 X 144 dots per inch **Printing:** bidirectional **Feed:** Tractor; (optional) Friction **Carriage width:** 15 in. **Introduced:** 1986 **Cost:** $3,198

☐ Model 800 Demand Document Printer
40; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 24 X 18 **Character set:** 96 **Print positions:** 136; 163; 224 **Resolution:** 72 X 72; 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 400; (optional) 3K bytes **Feed:** Friction **Carriage width:** 14-7/8 in. **Units sold:** 2,000 since 1985 **Cost:** $1,895

INTEQ, INC.

☐ Tempest LP-5100A
200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 9 X 9 **Character set:** 96 **Print positions:** 176 **Printing:** bidirectional **Buffer:** 2K; (optional) 4K bytes **Feed:** Tractor **Carriage width:** 16 in. **Units sold:** 500 since 1982 **Cost:** $5,495

☐ Tempest LPC-5100A Color Graphic Printer
100; 300 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 176 **Printing:** bidirectional **Units sold:** 50 since 1984 **Cost:** $5,475

☐ Tempest LQP-5100B
55 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 198 **Printing:** bidirectional **Buffer:** 500 bytes **Units sold:** 100 since 1984 **Cost:** $4,995

INTERFACE DATA, INC.

☐ ID 11/90
90 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 197 **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Units sold:** 200 since 1983 **Cost:** $3,395

☐ ID 160
50; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 18 X 40 **Character set:** 96 **Print positions:** 80; 160 **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Tractor; Friction **Carriage width:** 11 in. **Units sold:** 400 since 1982 **Cost:** $1,795

☐ ID 290

50; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 18 X 40 **Character set:** 96 **Print positions:** 80; 132; 264 **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Units sold:** 300 since 1982 **Cost:** $1,995

☐ ID 490

100; 400 cps **Type:** Dot matrix **Matrix:** 7 X 9; 18 X 40 **Character set:** 96 **Print positions:** 132; 220 **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Units sold:** 5 since 1983 **Cost:** $2,995

INTERFACE SYSTEMS, INC.

☐ ISI 424

50; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 196 **Print positions:** 250 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 12 in. **Units sold:** 250 since 1985 **Cost:** $2,950

☐ ISI 462

225; 300 lpm **Type:** Band **Character set:** 48; 64; 96 **Print positions:** 132 **Buffer:** 4K bytes **Feed:** Tractor **Carriage width:** 15 in. **Units sold:** 150 since 1985 **Cost:** $7,850

☐ ISI 468

100; 400 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Print positions:** 132 **Resolution:** 100 X 72 dots per inch **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Pin **Carriage width:** 15 in. **Units sold:** 300 since 1984 **Cost:** $6,450

☐ ISI 487

50; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 8 X 7 **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 3.5K bytes **Feed:** Tractor **Carriage width:** 15 in. **Units sold:** 4,000 since 1983 **Cost:** $3,950

ITT QUME CORP.

☐ LetterPro 20

22 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 110; 165 **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Tractor; Friction **Carriage width:** 13 in. **Units sold:** 50,000 since 1983 **Cost:** $599

☐ SPRINT 11 Plus Widetrack

50 cps **Type:** Daisy wheel **Character set:** 130 **Print positions:** 196; 235; 293 **Printing:** bidirectional **Buffer:** 14K bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 22 in. **Units sold:** 500 since 1984 **Cost:** $2,995

☐ SPRINT 11 Plus 130

50 cps **Type:** Daisy wheel **Character set:** 130 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 14K bytes **Carriage width:** 15 in. **Units sold:** 2,000 since 1984 **Cost:** $1,795

☐ SPRINT 11/40 Plus

40 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 500; (optional) 14K bytes **Feed:** Friction **Carriage width:** 15 in. **Units sold:** 50,000 since 1982 **Cost:** $1,295

☐ SPRINT 11/55 Plus

55 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 500; (optional) 14K bytes **Feed:** Friction **Carriage width:** 15 in. **Units sold:** 200,000 since 1983 **Cost:** $1,595

☐ SPRINT 11/90 Plus

90 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 500; (optional) 14K bytes **Feed:** Tractor; Sheet **Carriage width:** 15 in. **Units sold:** 5,000 since 1984 **Cost:** $1,995

JUKI OFFICE MACHINE CORP.

Printer Division

☐ Model 5510

22; 180 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 18 **Character set:** 96 **Print positions:** 80; 132 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Introduced:** 1984 **Cost:** $499

☐ Model 6000

8; 10 cps **Type:** Daisy wheel **Character set:** 100 **Print positions:** 90; 108; 135 **Printing:** bidirectional **Feed:** Friction **Carriage width:** 12 in. **Introduced:** 1984 **Cost:** $295

☐ Model 6100

18 cps **Type:** Daisy wheel **Character set:** 100 **Print positions:** 132; 110; 165 **Printing:** bidirectional **Buffer:** 2K; (optional) Up to 8K bytes **Feed:** Friction **Carriage width:** 13 in. **Introduced:** 1983 **Cost:** $599

☐ Model 6200

30 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 197 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor **Carriage width:** 16 in. **Introduced:** 1985 **Cost:** $745

☐ Model 6300

40 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 197 **Printing:** bidirectional **Buffer:** 3K; (optional) 15K bytes **Feed:** Friction **Carriage width:** 19 in. **Introduced:** 1984 **Cost:** $995

☐ Model 6500

60 cps **Type:** Daisy wheel **Character set:** 96 **Printing:** bidirectional **Buffer:** 3K-15K bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 14-7/8 in. **Introduced:** 1986 **Cost:** $1,395

KAYE INSTRUMENTS, INC.

☐ Digistrip LP-1

60 lpm **Type:** Dot matrix **Matrix:** 5 X 8 **Print positions:** 137 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor **Carriage width:** 11 in. **Units sold:** 200 since 1984 **Cost:** $3,000

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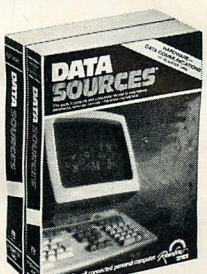
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TPC4

KPG, INC.

☐ PPM 3802
800 lpm Type: Dot matrix Printing: bidirectional Buffer: 2K bytes Feed: Friction Carriage width: 1-7/8 in. Support equip: Cables; Software Units sold: 4,000 since 1984 Cost: $3,155 (Intelligent); $2,290 (Slave)

LEE DATA CORP.

☐ Model 1310 Color Graphics
35; 110; 200 cps Type: Dot matrix Matrix: 18 X 36 Character set: 96 Print positions: 80-225 Printing: bidirectional Buffer: 5K bytes Feed: Tractor; Friction Carriage width: 17 in. Introduced: 1985 Cost: $1,960

☐ Model 1317
80; 160 cps Type: Dot matrix Matrix: 9 X 11 Character set: 96 Print positions: 40; 80; 48; 68; 96; 137 Printing: bidirectional Buffer: 2K bytes Feed: Tractor; Friction Carriage width: 10 in. Introduced: 1984 Cost: $895

LITTON WESTREX PRINTER DIVISION
(division of Litton Industries, Inc.)

☐ Model 820
132 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 46 Printing: bidirectional Buffer: 40 bytes Feed: Friction Units sold: 80,000 since 1978 Cost: $265

☐ Model 840
132 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 40 Printing: bidirectional Buffer: 40 bytes Feed: Friction Units sold: 15,000 since 1979 Cost: $230

☐ Model 841
132 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 40 Printing: bidirectional Buffer: 40 bytes Feed: Friction Units sold: 400 since 1982 Cost: $280

☐ Model 850
132 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 51 Printing: bidirectional Buffer: 51 bytes Feed: Friction Carriage width: 4.75 in. Units sold: 6,000 since 1980 Cost: $260

☐ Westrex 1
140 cps Type: Dot matrix Matrix: 9 X N Character set: 96 Print positions: 80 Printing: bidirectional Buffer: 2K bytes Feed: Pin; Roll Carriage width: 9.5 in. Introduced: 1985 Cost: $499

☐ 800 Series
150 cps Type: Dot matrix Matrix: 5 X 7 Character set: User-defined Print positions: 40; 51 Printing: bidirectional Buffer: 40 bytes Feed: Friction Carriage width: 4.75 in. Units sold: 150,000 since 1978 Cost: $200-$350

☐ 8400 Slip/Document Printer
150 cps Type: Dot matrix Matrix: 5 X 7; 7 X 7; 9 X 7 Character set: 96 Print positions: 40 Printing: bidirectional Buffer: 40 bytes Feed: Friction Carriage width: 3.15 in. Units sold: 200 since 1982 Cost: $795

☐ 8410 Slip/Document Printer
150 cps Type: Dot matrix Matrix: 5 X 7; 7 X 7; 9 X 7 Character set: 96 Print positions: 40 Printing: bidirectional Buffer: 40 bytes Feed: Friction Carriage width: 3.15 in. Units sold: 200 since 1982 Cost: $795

MANNESMANN TALLY

☐ MT 290
50; 200 cps Type: Dot matrix Matrix: 9 X 9; 40 X 18 Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 8K bytes Feed: Tractor; Friction Carriage width: 16 in. Support equip: Cables Introduced: 1985 Cost: $999; $1,249 (front feed version)

☐ MT 460; MT 460D; MT 460F
50; 200; 270 cps Type: Dot matrix Matrix: 9 X 9; 18 X 48 Character set: 128; 158; 165; 198; 225 Print positions: 132 Resolution: 240 X 72; 150 X 84 dots per inch Printing: bidirectional Buffer: 2K; (optional) 8K bytes Feed: Tractor; Friction Carriage width: 16 in. Support equip: Cables Introduced: 1985 Cost: $1,949 (MT 460); $2,199 (MT 460D); $2,399 (MT 460F)

☐ MT 490; MT 490F (Multicolor)
150; 400 cps Type: Dot matrix Matrix: 9 X 9; 18 X 48 Character set: 128 Print positions: 132; 158; 198; 225 Resolution: 240 X 144 dots per inch Buffer: 8K bytes Feed: Tractor; Friction Carriage width: 16 in. Support equip: Cables Introduced: 1985 Cost: $2,199 (MT 490); $2,399 (MT 490F)

☐ MT 540
100; 400 lpm Type: Line matrix Character set: 128 Print positions: 219 Resolution: 300 X 144 dots per inch Buffer: 8K bytes Feed: Tractor; Friction Carriage width: 16 in. Support equip: Cables Introduced: 1986 Cost: $3,500

☐ MT 660
600 lpm Type: Dot matrix Matrix: 9 X 7; 9 X 9; 27 X 11; 27 X 13 Character set: 96 Print positions: 132; 198 Resolution: 200 X 200 dots per inch Buffer: 2K; 4K; 8K bytes Feed: Tractor Carriage width: 16 in. Support equip: Cables Units sold: 4,500 since 1983 Cost: $8,490

☐ MT 690
320; 900 lpm Type: Line matrix Matrix: 9 X 7; 9 X 9; 9 X 12; 25 X 12; 27 X 13 Character set: 64; 96 Print positions: 80; 132; 100; 150; 198 Printing: bidirectional Buffer: 2K; (optional) 4K; 8K bytes Feed: Tractor; ; Pin Carriage width: 16 in. Support equip: Cables Introduced: 1985 Cost: $10,500

☐ MT 85; MT 86
45; 180 cps Type: Dot matrix Matrix: 9 X 9; 18 X 24 Character set: 128 Print positions: 80; 136 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 3K bytes Feed: Tractor; Friction Carriage width: 16 in. Support equip: Cables Units sold: 6,000 since 1985 Cost: $499; $599

MATRA COMMUNICATION, INC.

☐ Mini-Printer Plus
120 cps Type: Dot matrix Matrix: 9 X 11 Character set: 96 Print positions: 80; 136 Printing: bidirectional Buffer: 4K; 2K (internal) bytes Feed: Tractor; Friction Carriage width: 10 in. Introduced: 1985 Cost: $445

MITSUBA CORP.

☐ CPA-80
120 cps Type: Dot matrix Matrix: 8 X 9 Character set: 192 Print positions: 40; 80; 142 Printing: bidirectional Buffer: 2K bytes Feed: Friction; Sprocket Carriage width: 10 in. Introduced: 1984 Cost: $299

☐ EN-P1091
22; 120 cps Type: Dot matrix Matrix: 9 X 9; 12 X 12; 12 X 18 Character set: 96 Print positions: 40; 80; 132 Printing: bidirectional Buffer: 1K; (optional) 4K bytes Feed: Tractor; Friction Carriage width: 10 in. Introduced: 1984 Cost: $399

☐ EP-150
130 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 40; 80; 132 Printing: bidirectional Buffer: 2K bytes Feed: Tractor; Friction Carriage width: 10 in. Units sold: 3,000 since 1984 Cost: $319

☐ EP-1505
140 cps Type: Dot matrix Matrix: 9 X 9 Print positions: 136; 233 Printing: bidirectional Buffer: 2K; (optional) Additional 2K bytes Feed: Friction; Sprocket Carriage width: 10 in. Introduced: 1985 Cost: $449

MITSUBISHI ELECTRONICS AMERICA, INC.

☐ S300 Color Printer
90 cps Type: Dot matrix Matrix: 17 X 12 Character set: 508 Print positions: 96; 136 Resolution: 168 X 168; 168 X 140 dots per inch Buffer: 136 bytes Feed: Tractor; Friction Carriage width: 8.5 in. Introduced: 1986

MOMENTUM SYSTEMS CORP.

☐ Model 3344
300 cps Type: Dot matrix Matrix: 5 X 7; 5 X 9; 13 X 7; 13 X 9 Carriage width: 16.75 in. Introduced: 1984

☐ Model 3346
27; 160 cps Type: Dot matrix Print positions: 80 Resolution: 240 X 216 dots per inch Feed: Tractor Carriage width: 10 in. Introduced: 1984 Cost: $995

☐ Model 3347
27; 160 cps Type: Dot matrix Print positions: 156 Resolution: 240 X 216 dots per inch Feed: Tractor Carriage width: 17 in. Introduced: 1984 Cost: $1,295

MONROE SYSTEMS FOR BUSINESS

☐ MA 2515
160 cps Type: Dot matrix Matrix: 9 X 9; 13 X 17 Character set: 96 Print positions: 136; 233 Printing: bidirectional Feed: Tractor; Friction Carriage width: 16 in. Introduced: 1983 Cost: $1,295; Lease (mo.) —$60

☐ MA 2550
35 cps Type: Thimble Character set: 128 Print positions: 136; 163; 203 Printing: bidirectional Buffer: 2K bytes Feed: Tractor; Friction Carriage width: 16 in. Introduced: 1983 Cost: $1,895

☐ MA 2565
350 cps Type: Dot matrix Matrix: 9 X 9; 17 X 9; 17 X 17 Character set: 96 Print positions: 68; 81; 116; 163; 233 Printing: bidirectional Buffer: 2K bytes Feed: Tractor; Friction Carriage width: 16 in. Cost: $2,995

MPI (MICRO PERIPHERALS, INC.)

☐ PrintMate 150
150 cps Type: Dot matrix Matrix: 7 X 9; 11 X 9 Character set: 96 Print positions: 136; 163; 204; 231 Printing: bidirectional Buffer: 4K; 20K; 36K; 68K bytes Feed: Tractor Carriage width: 15 in. Units sold: 6,000 since 1983 Cost: $1,045

☐ PrintMate 350
300 cps Type: Dot matrix Matrix: 7 X 9; 23 X 18 Character set: 96 Print positions: 136; 231 Resolution: 144 X 144 Buffer: 16K; (optional) 80K bytes Feed: Tractor; Friction Introduced: 1985 Cost: $1,495

☐ PrintMate 99
100 cps Type: Dot matrix Matrix: 7 X 9; 11 X 9 Character set: 96 Print positions: 80; 96; 136 Printing: bidirectional Buffer: 1K; 2K bytes Feed: Tractor; Friction Carriage width: 9-5/8 in. Units sold: 35,000 since 1981 Cost: $599

☐ Sprinter
160 cps Type: Dot matrix Matrix: 7 X 9; 11 X 9 Character set: 96 Print positions: 80; 96; 115; 120; 136 Printing: bidirectional Buffer: 4K; 20K; 36K; 68K bytes Feed: Tractor; Friction Carriage width: 9-5/8 in. Units sold: 6,000 since 1983 Cost: $595

☐ SXprinter
300 cps Type: Dot matrix Matrix: 7 X 9; X 9; 11 X 18; 18 X 23 Character set: 96 Print positions: 80; 96; 115; 120; 136 Printing: bidirectional Buffer: 4K; 20K; 36K; 68K bytes Feed: Tractor; Friction Carriage width: 9-5/8 in. Units sold: 500 since 1984 Cost: $895

☐ Xprinter
180 cps Type: Dot matrix Matrix: 7 X 9; 11 X 9; 11 X 18 Character set: 96 Print positions: 80; 96; 115; 120; 136 Printing: bidirectional Buffer: 4K; 20K; 36K; 68K bytes Feed: Tractor; Friction Carriage width: 9-5/8 in. Units sold: 2,000 since 1984 Cost: $695

NCR CORP.

☐ Model 2561
80 lpm Type: Dot matrix Matrix: 7 X 7; 9 X 7 Character set: 96; 128 Print positions: 40

☐ Model 6411-1552
120 cps **Type:** Dot matrix **Matrix:** 9 X 7 **Character set:** 256 **Print positions:** 136 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor; Friction **Carriage width:** 15.5 in. **Cost:** $1,185

NEC INFORMATION SYSTEMS, INC.

☐ Pinwriter P2
30; 90; 180 cps **Type:** Dot matrix **Matrix:** 7 X 9; 21 X 18; 13 X 9 **Character set:** 96; 224 **Print positions:** 80; 93; 136 **Resolution:** 240 X 240; 240 X 216 dots per inch **Printing:** bidirectional **Buffer:** (parallel) 3.5K; (serial) 5.5K bytes **Feed:** Friction **Carriage width:** 10 in. **Units sold:** 50,000 since 1984 **Cost:** $699

☐ Pinwriter P3
30; 90; 180 cps **Type:** Dot matrix **Matrix:** 7 X 9; 21 X 18; 13 X 9 **Character set:** 96; 224 **Print positions:** 136; 163; 233 **Resolution:** 240 X 240; 240 X 216 dots per inch **Printing:** bidirectional **Buffer:** (parallel) 3.5K; (serial) 5.5K bytes **Feed:** Tractor; Friction **Carriage width:** 16 in. **Units sold:** 50,000 since 1984 **Cost:** $999

☐ Pinwriter P5
100; 290 cps **Type:** Dot matrix **Matrix:** 24 X 37 **Character set:** 256 **Print positions:** 136 **Resolution:** 360 X 360 dots per inch **Printing:** bidirectional **Buffer:** 8K bytes **Feed:** Tractor; Sheet **Carriage width:** 15 in. **Introduced:** 1985 **Cost:** $1,440

☐ Pinwriter P5XL
100; 240; 290 cps **Type:** Dot matrix **Matrix:** N X 24 **Character set:** 128 **Introduced:** 1986 **Cost:** $1,695

☐ Spinwriter elf 350
19 cps **Type:** Thimble **Character set:** 128 **Print positions:** 132; 110; 165 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Sheet; (optional) Tractor **Carriage width:** 13 in. **Units sold:** 1,000 since 1985 **Cost:** $545

☐ Spinwriter elf 360
16; 19 cps **Type:** Thimble **Character set:** 128 **Print positions:** 132; 110; 165 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Friction **Carriage width:** 13 in. **Units sold:** 5,000 since 1985 **Cost:** $545

☐ Spinwriter elf 370
16; 19 cps **Type:** Thimble **Character set:** 128 **Print positions:** 132; 110; 165 **Printing:** bidirectional **Buffer:** 1K bytes **Feed:** Friction; (optional) Tractor; Sheet **Carriage width:** 13 in. **Units sold:** 150 since 1985 **Cost:** $545

☐ Spinwriter 3550
35 cps **Type:** Thimble **Character set:** 128 **Print positions:** 136; 163; 203 **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Friction **Carriage width:** 16 in. **Units sold:** 96,759 since 1982 **Cost:** $1,440

☐ Spinwriter 8810
55 cps **Type:** Thimble **Character set:** 128 **Print positions:** 136; 163; 203 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Friction **Carriage width:** 16 in. **Introduced:** 1984 **Cost:** $1,990

☐ Spinwriter 8850
55 cps **Type:** Thimble **Character set:** 128 **Print positions:** 136; 163; 203 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Friction **Carriage width:** 16 in. **Introduced:** 1984 **Cost:** $1,990

NEWBURY DATA, INC.

☐ Model 8933
120; 240 cps **Type:** Dot matrix **Matrix:** 12 X 24 **Character set:** 96 **Print positions:** 132; 158; 198; 220 **Printing:** bidirectional **Introduced:** 1985

☐ OSP 1
100; 200 cps **Type:** Dot matrix **Print positions:** 80; 132; 113; 136; 169; 192; 226 **Printing:** bidirectional **Introduced:** 1986

☐ OSP 2
100; 200 cps **Type:** Dot matrix **Print positions:** 80; 132; 113; 136; 169; 192; 226 **Printing:** bidirectional **Introduced:** 1985

☐ OSP 3
50; 100; 200 cps **Type:** Dot matrix **Print positions:** 80; 132; 113; 136; 169; 192; 226 **Printing:** bidirectional **Introduced:** 1986

NEWPORT ELECTRONICS, INC.

☐ 821 Alphanumeric Thermal Printer
96 lpm **Type:** Dot matrix **Matrix:** 5 X 9 **Character set:** 96 **Print positions:** 20 **Buffer:** 41 bytes **Feed:** Friction **Carriage width:** 2.25 in. **Units sold:** 900 since 1982 **Cost:** $699

☐ 822 Alphanumeric Thermal Printer
96 lpm **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 102 **Print positions:** 20 **Buffer:** 41 bytes **Feed:** Friction **Carriage width:** 2.25 in. **Units sold:** 1,200 since 1982 **Cost:** $699

NORCOM ELECTRONICS CORP.

☐ DP-80
150 cps **Type:** Character **Matrix:** 9 X 9 **Character set:** 180 **Print positions:** 80 **Resolution:** 60 X 72; 120 X 72 dots per inch **Printing:** bidirectional **Buffer:** 2K; (optional) 4K; 8K bytes **Feed:** Tractor; Sheet; Roll **Support equip:** Cables **Introduced:** 1985 **Cost:** $3,495

NORTH ATLANTIC INDUSTRIES
Peripheral Products Division

☐ Model 7035
180 cps **Type:** Dot matrix **Matrix:** 18 X 24; 12 X 9 **Character set:** 96; 128 **Print positions:** 136-231 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 4.7K bytes **Feed:** Tractor; Friction **Carriage width:** 15.5 in. **Support equip:** ROM **Units sold:** 2,000 since 1984 **Cost:** $1,795

☐ Model 7065
300 cps **Type:** Dot matrix **Matrix:** 18 X 24 **Character set:** 128 **Print positions:** 136-231 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 4.7K bytes **Feed:** Tractor; Friction **Carriage width:** 15.5 in. **Support equip:** ROM **Units sold:** 3,000 since 1984 **Cost:** $2,395

☐ Model 7075
215 cps **Type:** Dot matrix **Matrix:** 18 X 24; 12 X 9 **Character set:** 96; 128 **Print positions:** 136-231 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 4.7K bytes **Feed:** Tractor **Carriage width:** 15.5 in. **Support equip:** ROM **Units sold:** 500 since 1985 **Cost:** $1,795

☐ Model 7085
300 cps **Type:** Dot matrix **Matrix:** 18 X 24 **Character set:** 128 **Print positions:** 136-231 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 4.7K bytes **Feed:** Tractor; Friction **Support equip:** ROM **Units sold:** 2,000 since 1985 **Cost:** $2,395

☐ Tempest 220 (Color)
215 cps **Type:** Dot matrix **Matrix:** 18 X 24; 12 X 9 **Character set:** 96; 128 **Print positions:** 136-231 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 4.7K bytes **Feed:** Tractor; Friction; (optional) Automatic sheet **Carriage width:** 15.5 in. **Support equip:** ROM **Units sold:** 500 since 1985 **Cost:** $4,390

☐ Tempest 7020
180 cps **Type:** Dot matrix **Matrix:** 12 X 9 **Character set:** 96; 128 **Print positions:** 136-231 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 4.7K bytes **Feed:** Tractor **Carriage width:** 15.5 in. **Support equip:** ROM **Units sold:** 500 since 1985 **Cost:** $3,590

☐ Tempest 7035
180 cps **Type:** Dot matrix **Matrix:** 18 X 24; 12 X 9 **Character set:** 96; 128 **Print positions:** 136-231 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 4.7K bytes **Feed:** Tractor; Friction **Carriage width:** 15.5 in. **Support equip:** ROM **Units sold:** 500 since 1985 **Cost:** $3,990

OKIDATA

☐ ML182
60; 120 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80; 96; 137 **Resolution:** 60 X 72; 72 X 72; 120 X 144; 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction; Pin **Carriage width:** 10 in. **Introduced:** 1984 **Cost:** $299

☐ ML192 Plus
40; 80; 160; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 9 X 9; 18 X 9; 9 X 18; 17 X 17 **Introduced:** 1986 **Cost:** $499

☐ ML193 Plus
40; 80; 160; 200 cps **Type:** Dot matrix **Matrix:** 7 X 9; 9 X 9; 18 X 9; 9 X 18; 17 X 17 **Introduced:** 1986 **Cost:** $749

☐ ML292
100; 200; 240 cps **Type:** Dot matrix **Feed:** ; Sheet **Introduced:** 1986 **Cost:** $699

☐ ML293
100; 200; 240 cps **Type:** Dot matrix **Feed:** ; Sheet **Introduced:** 1986 **Cost:** $899

☐ ML294
100; 400 cps **Type:** Dot matrix **Matrix:** 17 X 17 **Introduced:** 1986 **Cost:** $1,499

☐ ML84
50; 100; 200 cps **Type:** Dot matrix **Matrix:** 9 X 9; 9 X 17 **Character set:** 48; 64; 96 **Print positions:** 68; 81; 116; 136; 163; 231 **Printing:** bidirectional **Buffer:** 2K (optional) bytes **Feed:** Tractor; Friction **Carriage width:** 16 in. **Introduced:** 1982 **Cost:** $899 (parallel); $1,019 (serial)

☐ ML93
160 cps **Type:** Dot matrix **Matrix:** 9 X 9; 9 X 17 **Character set:** 96 **Print positions:** 68; 81; 116; 136; 163; 233 **Printing:** bidirectional **Buffer:** 256; (optional) 2K; 4K bytes **Feed:** Tractor; Friction **Carriage width:** 16 in. **Introduced:** 1983 **Cost:** $799

☐ Okimate 20 Color Screen Printer
40; 80 cps **Type:** Dot matrix **Matrix:** 7 X 9; 7 X 18; 14 X 18; 18 X 18 **Character set:** 95 **Print positions:** 40; 80; 132; 136 **Resolution:** 144 X 144; 160 X 144 dots per inch **Printing:** bidirectional **Buffer:** 8K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Support equip:** Cables **Introduced:** 1985

☐ Pacemark 2410
85; 175; 350 cps **Type:** Dot matrix **Matrix:** 9 X 9; 17 X 9; 17 X 17 **Character set:** 96 **Print positions:** 68; 81; 116; 136; 163; 233 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 2K; 4K bytes **Feed:** Tractor; Friction; Sheet **Carriage width:** 16 in. **Introduced:** 1983 **Cost:** $2,395 (parallel); $2,475 (serial)

OLYMPIA USA, INC.

☐ ESW 1000
15; 25; 40 cps **Type:** Daisy wheel **Character set:** 100 **Print positions:** 118; 141; 176 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $549

☐ ESW 2000; ESW 3000K
15; 25; 40 cps **Type:** Daisy wheel **Character set:** 100 **Print positions:** 150; 180; 225 **Introduced:** 1986 **Cost:** $799; $1,699

☐ NP 80; NP 136
200 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80; 136 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $549; $699

OPE PRINTERS, INC.
(subsidiary of Olivetti OPE)

☐ DY250
25 cps **Type:** Daisy wheel **Character set:** 100 **Print positions:** 132; 158; 197 **Printing:** bidirectional **Buffer:** 1K; 3K bytes **Feed:** Friction **Carriage width:** 16.7 in. **Introduced:** 1983 **Cost:** $995

☐ DY450
45 cps **Type:** Daisy wheel **Character set:** 100 **Print positions:** 132; 158; 197 **Printing:** bidirectional **Buffer:** 1K; 3K bytes **Feed:** Friction **Carriage width:** 16.7 in. **Introduced:** 1984 **Cost:** $1,495

ORION RESEARCH, INC.

☐ Orion GLP
12; 50 cps Type: Dot matrix Print positions: 80; 132 Printing: bidirectional Introduced: 1986 Cost: $625

OUTPUT TECHNOLOGY CORP.

☐ TriMatrix OT-700e
700 cps Type: Dot matrix Matrix: 7 X 9 Character set: 96 Print positions: 136; 226; 113; 68; 163; 81 Units sold: 6,600 since 1985 Cost: $1,995

☐ TriMatrix OT-700n
700; 37-59 cps Type: Dot matrix Matrix: 7 X 9 Character set: 96 Print positions: 136; 226; 113; 68; 163; 81 Resolution: 50/100 X 69 dots per inch Printing: bidirectional Buffer: 4K bytes Feed: Tractor Carriage width: 16 in. Units sold: 150 since 1986 Cost: $2,095

☐ TriMatrix OT-777
700 cps Type: Dot matrix Matrix: 9 X 7 Character set: 96 Print positions: 136; 226; 113; 68; 163; 81 Resolution: 50/100 X 69 dots per inch Printing: bidirectional Buffer: 8K bytes Feed: Tractor Carriage width: 16 in. Units sold: 247 since 1985 Cost: $3,195

PANASONIC INDUSTRIAL CO.
Computer Products Division

☐ KX-P1080
100 cps Type: Dot matrix Matrix: 9 X 9; 23 X 18 Character set: 96; 32 Print positions: 40; 80; 96; 120; 137; 48; 60; 68 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 1K; (optional) 4K bytes Feed: Tractor; Friction Carriage width: 10 in. Support equip: ROM Introduced: 1985 Cost: $319

☐ KX-P1091
120 cps Type: Dot matrix Matrix: 9 X 9; 23 X 18 Character set: 96; 32 Print positions: 40; 80; 96; 137; 48; 68 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 1K; (optional) 4K bytes Feed: Tractor; Friction Carriage width: 10 in. Introduced: 1984 Cost: $399

☐ KX-P1092
180 cps Type: Dot matrix Matrix: 9 X 9; 12 X 18 Character set: 96; 32 Print positions: 40; 80; 137; 96; 48; 68 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 7K; (optional) 11K bytes Feed: Tractor; Friction Carriage width: 10 in. Introduced: 1984 Cost: $499

☐ KX-P1592
180 cps Type: Dot matrix Matrix: 9 X 9; 23 X 18 Character set: 96; 32 Print positions: 68; 81; 102; 116; 136; 163; 204; 233 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 7K; (optional) 32K bytes Feed: Tractor; Friction Carriage width: 16.5 in. Introduced: 1985 Cost: $699

☐ KX-P1595
240 cps Type: Dot matrix Matrix: 9 X 9; 23 X 18 Character set: 96; 32 Print positions: 68; 81; 102; 116; 136; 163; 204; 233 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 15K; (optional) 32K bytes Feed: Tractor; Friction Carriage width: 16.5 in. Introduced: 1986 Cost: $949

☐ KX-P3131
17 cps Type: Daisy wheel Character set: 96 Print positions: 132; 110; 165 Printing: bidirectional Buffer: 6K; (optional) 32K bytes Feed: Friction; (optional) Tractor; Cut sheet Carriage width: 13.5 in. Introduced: 1985 Cost: $419

☐ KX-P3151
22 cps Type: Daisy wheel Character set: 96 Print positions: 132; 158; 198 Printing: bidirectional Buffer: 7K; (optional) 48K bytes Feed: Friction; (optional) Tractor; Cut sheet Carriage width: 15.5 in. Introduced: 1984 Cost: $659

PERRY DATA SYSTEMS, INC.

☐ Model 2014/Receipt Printer
120 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 40 Printing: bidirectional Buffer: 1K bytes Feed: Pinch Carriage width: 3.5 in. Support equip: Cables Introduced: 1983 Cost: $995

☐ Model 2042/Document Printer
120 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 40 Printing: bidirectional Buffer: 1K bytes Feed: Pinch Support equip: Cables Introduced: 1983 Cost: $995

PERSONAL MICRO COMPUTERS, INC.
(division of Recortec, Inc.)

☐ DMP-85
120 cps Type: Dot matrix Matrix: 7 X 9 Character set: 96 Print positions: 80; 96; 135 Resolution: 160 X 144 dots per inch Printing: bidirectional Buffer: 1.3K bytes Feed: Tractor; Friction Carriage width: 10 in. Units sold: 3,000 since 1982 Cost: $295

PHILIPS PERIPHERALS, INC.

☐ GP 300 PC Series
60; 80; 150; 300 cps Type: Dot matrix Matrix: 9 X 9 Resolution: 72 X 60; 144 X 144 dots per inch Printing: bidirectional Buffer: 2K; 3K bytes Carriage width: 14.5 in. Introduced: 1986

PINETREE COMPUTER SYSTEMS, INC.

☐ Pinetree Printer
160 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 132 Printing: bidirectional Feed: Friction; Pin Carriage width: 8.5 in. Introduced: 1983 Cost: $400

PLESSEY PERIPHERAL SYSTEMS, INC.
(division of The Plessey Co., Ltd.)

☐ LC-25
500 cps Type: Dot matrix Matrix: 17 X 18 Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 4.5K bytes Feed: Tractor; Sheet Carriage width: 16 in. Introduced: 1984 Cost: $2,295

☐ LC-25B
240 cps Type: Dot matrix Matrix: 17 X 18 Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 3.5K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1984 Cost: $1,725

☐ LCQ-55
150 cps Type: Dot matrix Matrix: 32 X 18 Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 256 bytes Feed: Tractor; Friction Carriage width: 11 in. Introduced: 1984 Cost: $935

☐ PM-LC11-RO
150 cps Type: Dot matrix Matrix: 9 X 9 Character set: 95 Print positions: 132 Printing: bidirectional Buffer: 2.6K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1981 Cost: $1,380

PRIMAGES, INC.

☐ Primage 90
62; 90 cps Type: Daisy wheel Character set: 96 Print positions: 135; 162; 202 Printing: bidirectional Buffer: 1K; 2K bytes Feed: Tractor; Friction Carriage width: 16.5 in. Units sold: 5,000 since 1984 Cost: $1,795-$2,295

PRINTEK, INC.

☐ FormsPro 2000
80; 200 cps Type: Dot matrix Matrix: 9 X 9; 36 X 18 Character set: 256 Print positions: 132; 227 Printing: bidirectional Introduced: 1986 Cost: $2,195

☐ Model 910SPC
45; 200 cps Type: Dot matrix Matrix: 9 X 9; 24 X 18 Character set: 96 Print positions: 136-227 Resolution: 144 X 144 dots per inch Printing: bidirectional Buffer: 1.8K-12K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1982 Cost: $1,595

☐ Model 920SPC
80; 340 cps Type: Dot matrix Matrix: 9 X 9; 24 X 18 Character set: 96 Print positions: 136-227 Resolution: 144 X 144 dots per inch Printing: bidirectional Buffer: 1.8K-12K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1982 Cost: $2,395

☐ Model 930/dlx
80; 200 cps Type: Dot matrix Matrix: 9 X 9; 36 X 18 Character set: 256 Print positions: 132; 227 Resolution: 144 X 144 dots per inch Printing: bidirectional Buffer: 8K bytes Feed: Tractor; Friction Carriage width: 16 in. Introduced: 1986 Cost: $1,995

☐ Model 935
40; 200 cps Type: Dot matrix Matrix: 9 X 9; 36 X 19 Character set: 96 Print positions: 136-227 Resolution: 144 X 144 dots per inch Printing: bidirectional Buffer: 768 bytes Feed: Tractor; Friction Carriage width: 16 in. Introduced: 1985 Cost: $1,695

PRINTER SYSTEMS CORP. (PSC)

☐ PSC LW 400/455
300; 400; 480 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132 Carriage width: 18 in. Units sold: 11,000 since 1983 Cost: $5,818-$6,645

☐ PSC LW 800/855
600; 800; 960 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132 Carriage width: 18 in. Units sold: 6,000 since 1983 Cost: $8,110-$8,937

PRINTRONIX, INC.

☐ B2012
725; 900; 1,200; 1,500 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132; 136 Feed: Tractor Carriage width: 17.5 in. Introduced: 1984 Cost: $13,950

☐ B2015
900; 1,100; 1,500; 1,800 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132; 136 Feed: Tractor Carriage width: 17.5 in. Introduced: 1984 Cost: $17,500

☐ DP1000
800; 1,000; 1,150 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132; 136 Feed: Tractor Carriage width: 17.5 in. Introduced: 1984 Cost: $11,800

☐ DP1200
875; 1,200; 1,400 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132; 136 Feed: Tractor Carriage width: 17.5 in. Introduced: 1984 Cost: $12,800

☐ DP600
430; 600; 700 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132; 136 Feed: Tractor Carriage width: 17.5 in. Introduced: 1984 Cost: $9,400

☐ DP750
540; 750; 870 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132; 136 Feed: Tractor Carriage width: 17.5 in. Introduced: 1984 Cost: $10,400

☐ DP9632B
60-240 cps Type: Dot matrix Matrix: 7 X 9 Character set: 96 Print positions: 132 Resolution: 72 X 72; 144 X 144 dots per inch Buffer: 3.2K bytes Feed: Tractor Carriage width: 13.2 in. Introduced: 1985 Cost: $2,995

☐ MVP 150B
80; 150; 200 lpm Character set: 229 Print positions: 132; 66; 165; 220; 233 Resolution: 200 dots per inch Buffer: 3.9K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1983 Cost: $3,745

☐ P600XQ
600; 800 lpm **Type:** Dot matrix **Matrix:** 5 X 7; 5 X 9; 9 X 5; 9 X 7; 9 X 9 **Character set:** 64; 96 **Print positions:** 132; 198 **Buffer:** 1K bytes **Feed:** Tractor **Carriage width:** 16 in. **Introduced:** 1983 **Cost:** $8,550

☐ 4160 Graphic Printer
130 lpm **Type:** Dot matrix **Matrix:** 11 X 16 **Character set:** 96 **Print positions:** 136 **Resolution:** 160 X 168 dots per inch **Buffer:** 1K bytes **Feed:** Tractor **Carriage width:** 16 in. **Units sold:** 9,000 since 1981 **Cost:** $5,380

QYTEL
(division of Consolidated Data Systems, Ltd.)

☐ Qytext 2750
180 lpm **Type:** Dot matrix **Matrix:** 17 X 11 **Character set:** 128 **Print positions:** 132; 214 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 14-7/8 in. **Units sold:** 4,800 since 1978 **Cost:** $1,595; Lease (mo.) — $70

☐ Qytext 2780
35; 55 cps **Type:** Thimble **Character set:** 128 **Print positions:** 132; 214 **Introduced:** 1978

☐ Qytext 5780
300 lpm **Type:** Dual mode matrix **Matrix:** 17 X 16 **Character set:** 128 **Print positions:** 132; 214 **Printing:** bidirectional **Buffer:** Up to 64K bytes **Units sold:** 2,100 since 1978 **Cost:** $295-$7,295

RCA SERVICE CO.
Business Services and Systems

☐ RCA Workstation Printer
60; 120 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 80; 96; 137 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction; Pin **Carriage width:** 10 in. **Support equip:** Cables **Introduced:** 1984

RENAISSANCE MARKETING, INC.

☐ 7000 Standard; Grand Slam
1,500 lpm **Type:** Chain **Character set:** 96 **Print positions:** 132 **Buffer:** 132 bytes **Feed:** Tractor; Pin **Carriage width:** 19 in. **Cost:** $21,000

RICOH CORP.

☐ RP 1500Q
40 cps **Type:** Daisy wheel **Character set:** 128 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 2K bytes **Units sold:** 5,000 since 1984 **Cost:** $1,489

☐ RP 1600Q
50 cps **Type:** Daisy wheel **Character set:** 128 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 2K bytes **Units sold:** 3,000 since 1984 **Cost:** $1,695

☐ RP 2200Q
20 cps **Type:** Daisy wheel **Character set:** 100 **Printing:** bidirectional **Buffer:** 512 bytes **Units sold:** 4,400 since 1983 **Cost:** $750

☐ RP 3400Q
40; 52 cps **Character set:** 96 **Printing:** bidirectional **Introduced:** 1985 **Cost:** $999

RMK SYSTEMS

☐ RM-200
200 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96; 128 **Print positions:** 80; 132 **Printing:** bidirectional **Buffer:** 8K bytes **Feed:** Friction **Carriage width:** 10.5 in. **Support equip:** Cables; Software **Units sold:** 100 since 1984 **Cost:** $400

ROYAL CONSUMER BUSINESS PRODUCTS

☐ LetterMaster
8 cps **Type:** Daisy wheel **Character set:** 94 **Printing:** bidirectional **Feed:** Friction **Carriage width:** 8.5 in. **Support equip:** Cables **Introduced:** 1985 **Cost:** $300

☐ OfficeMaster 2000/2000S
20 cps **Type:** Daisy wheel **Character set:** 164 **Print positions:** 120; 180; 144 **Printing:** bidirectional **Buffer:** 1.5K bytes **Feed:** Friction **Carriage width:** 14-1/8 in. **Support equip:** Cables **Introduced:** 1984 **Cost:** $595

SANYO BUSINESS SYSTEMS CORP.
(Computer Division)

☐ PR 3000
12 cps **Type:** Daisy wheel **Character set:** 91 **Print positions:** 80 **Printing:** bidirectional **Buffer:** 128K bytes **Feed:** Friction **Carriage width:** 8.5 in. **Support equip:** Cables **Units sold:** 4,000 since 1985 **Cost:** $299

☐ PR 5200
20 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 14.5 in. **Support equip:** Cables **Introduced:** 1985 **Cost:** $399

☐ PR 5500
15-16 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 128K bytes **Feed:** Tractor; Friction **Carriage width:** 17 in. **Support equip:** Cables **Units sold:** 10,000 since 1983 **Cost:** $549

SEIKOSHA CO., LTD.

☐ BP-5420AI
104; 420 cps **Type:** Dot matrix **Matrix:** 12 X 8; 24 X 16 **Print positions:** 136; 163 **Printing:** bidirectional **Introduced:** 1985 **Cost:** $2,295

☐ MP-1300AI
50; 300 cps **Type:** Dot matrix **Matrix:** 12 X 9; 24 X 18 **Print positions:** 80; 96 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $799

☐ SP-1000 Series
20; 100 cps **Type:** Dot matrix **Matrix:** 12 X 9; 24 X 18 **Character set:** 96 **Print positions:** 80; 137 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $359

SHARP ELECTRONICS CORP.
Systems Division

☐ JX-220
40; 80 cps **Type:** Dot matrix **Matrix:** 12 X 16 **Character set:** 256 **Print positions:** 80 **Resolution:** 120 dots per inch **Buffer:** 2K bytes **Feed:** Friction **Carriage width:** 8.5 in. **Introduced:** 1985

☐ JX-250
35; 70 cps **Type:** Dot matrix **Matrix:** 24 X 32 **Character set:** 256 **Print positions:** 100; 170 **Resolution:** 240 dots per inch **Buffer:** 8K bytes **Feed:** Friction **Carriage width:** 12 in. **Introduced:** 1985

☐ JX-720
35 cps **Type:** Dot matrix **Character set:** 96; 32 **Print positions:** 85 **Resolution:** 120 dots per inch **Printing:** bidirectional **Buffer:** 16K bytes **Feed:** Friction **Carriage width:** 11 in. **Cost:** $1,495

SHINWA OF AMERICA, INC.

☐ CPA-80
100 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96 **Print positions:** 80 **Printing:** bidirectional **Buffer:** 2K; 4K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Introduced:** 1985 **Cost:** $156

☐ CPB-136
130 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96 **Print positions:** 136 **Resolution:** 9 X 9 dots per inch **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 15.5 in. **Introduced:** 1985 **Cost:** $220

☐ CPB-80
130 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96 **Print positions:** 80 **Resolution:** 9 X 9 dots per inch **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Introduced:** 1985 **Cost:** $161

☐ TP-40
40 cps **Type:** Dot matrix **Matrix:** 8 x 5 **Character set:** 96 **Print positions:** 40 **Printing:** bidirectional **Feed:** Friction **Carriage width:** 4.25 in. **Introduced:** 1985

☐ TS-80
60 cps **Type:** Dot matrix **Matrix:** 8 x 5 **Character set:** 96 **Print positions:** 80 **Printing:** bidirectional **Buffer:** 1K bytes **Feed:** Tractor; Friction **Carriage width:** 8.5 in. **Introduced:** 1985

SIEMENS INFORMATION SYSTEMS, INC.
Communication Systems & Networks Group

☐ PT-88S
200 cps **Type:** Dot matrix **Matrix:** 9 X 9; 18 X 18 **Character set:** 96 **Print positions:** 80 **Resolution:** 102 X 102 **Printing:** bidirectional **Buffer:** 256; (optional) 4K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Support equip:** ROM **Units sold:** 200,000 since 1983 **Cost:** $699

☐ PT-89S
200 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 132 **Resolution:** 102 X 102 **Printing:** bidirectional **Buffer:** 165; (optional) 4K bytes **Feed:** Tractor; Friction **Carriage width:** 15.75 in. **Support equip:** ROM **Units sold:** 200,000 since 1984 **Cost:** $849

☐ PT-90
200; 400 cps **Type:** Dot matrix **Matrix:** 96 X 32; 48 X 32 **Character set:** 96 **Print positions:** 136 **Resolution:** 240 X 240 **Printing:** bidirectional **Buffer:** 10K bytes **Feed:** Tractor; Friction; Cut sheet **Carriage width:** 15.75 in. **Support equip:** ROM **Introduced:** 1986

SILVER-REED AMERICA, INC.

☐ EXP420
12 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 81; 98; 121 **Printing:** bidirectional **Introduced:** 1986 **Cost:** $299

☐ EXP600
25 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 3K; (optional) 40K bytes **Feed:** Tractor; Sheet **Carriage width:** 17 in. **Introduced:** 1986 **Cost:** $699

SINGER DATA PRODUCTS

☐ Model 400
100; 400 cps **Type:** Dot matrix **Matrix:** 9 X N **Character set:** 221 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 16.85 in. **Introduced:** 1983 **Cost:** $2,550; $5,000

☐ Model 400-C (Eight Color)
100; 400 cps **Type:** Dot matrix **Matrix:** 9 X N **Character set:** 221 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 16.85 in. **Introduced:** 1983 **Cost:** $2,695

☐ Model 5010
42 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 34 **Feed:** Tractor; Friction **Carriage width:** 4 in. **Introduced:** 1976 **Cost:** $1,075

☐ Model 5011
42 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 34 **Feed:** Tractor; Friction **Carriage width:** 4 in. **Introduced:** 1976 **Cost:** $1,075

☐ Model 5012
42 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 34 **Feed:** Tractor; Friction **Carriage width:** 4 in. **Introduced:** 1976 **Cost:** $1,075

☐ Model 5080
100 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 96 **Print positions:** 80 **Printing:** bidirectional **Buffer:** 300 bytes **Feed:** Friction; Pin **Carriage width:** 8.5 in. **Units sold:** 2,000 since 1981 **Cost:** $395

☐ PC-200
100; 200 cps Type: Dot matrix Matrix: 9 X N Character set: 221 Print positions: 132; 158; 198 Printing: bidirectional Buffer: 2K bytes Feed: Tractor; Friction Carriage width: 16.85 in. Introduced: 1983 Cost: $2,135

☐ PC-400
100; 400 cps Type: Dot matrix Print positions: 132 Resolution: 72 X 144 dots per inch Printing: bidirectional Feed: Tractor; (optional) Sheet Carriage width: 12 in. Introduced: 1985 Cost: $2,300

SOUTHERN SYSTEMS, INC.

☐ B-1000
1,000 lpm Type: Band Character set: 48; 64; 96 Print positions: 132 Feed: Tractor Carriage width: 16 in. Units sold: 150 since 1981 Cost: $12,345

☐ B-300
300 lpm Type: Band Character set: 48; 64; 96 Print positions: 132 Feed: Tractor Carriage width: 16 in. Units sold: 2,000 since 1979 Cost: $6,300

☐ B-600
600 lpm Type: Band Character set: 48; 64; 96 Print positions: 132 Feed: Tractor Carriage width: 16 in. Units sold: 1,600 since 1979 Cost: $7,990

☐ M-200
340 cps Type: Dot matrix Matrix: 7 X 7 Character set: 128 Print positions: 132 Printing: bidirectional Feed: Tractor Carriage width: 16 in. Units sold: 2,800 since 1978 Cost: $3,095

☐ QT1000
1,000 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132 Feed: Tractor Carriage width: 17 in. Units sold: 150 since 1981 Cost: $14,795

☐ QT1200
1,200 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132 Feed: Tractor Carriage width: 17 in. Units sold: 175 since 1981 Cost: $15,690

☐ ST450
450 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132 Feed: Tractor Carriage width: 17 in. Units sold: 100 since 1985 Cost: $5,600

☐ ST900
900 lpm Type: Band Character set: 48; 64; 96; 128 Print positions: 132 Feed: Tractor Carriage width: 17 in. Units sold: 100 since 1985 Cost: $6,925

SPERRY CORP.
Information Systems Group

☐ Model 0472/00
32; 160 cps Type: Dot matrix Matrix: 9 X 9; 18 X 24 Resolution: 240 X 216 dots per inch Printing: bidirectional Buffer: 8K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1986 Cost: $695

☐ Model 5
60; 100 cps Type: Dot matrix Character set: 96 Print positions: 40; 80; 137 Resolution: 240 X 72 dots per inch Printing: bidirectional Feed: Tractor; Friction; Sprocket Carriage width: 10 in. Introduced: 1986

☐ 431 Correspondence Quality Printer
55 cps Type: Daisy wheel Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 132 bytes Feed: Tractor; Friction; Cut sheet Carriage width: 14 in. Support equip: Cables; ROM Units sold: 11,000 since 1983 Cost: $2,025

STAR MICRONICS AMERICA, INC.

☐ NB-15
100; 300 cps Type: Dot matrix Buffer: 16K bytes Feed: Tractor; Friction Introduced: 1986

☐ NL-10
30; 120 cps Type: Dot matrix Printing: bidirectional Introduced: 1986 Cost: $255

☐ SB-10
60; 144 cps Type: Dot matrix Matrix: 24 X N Character set: 96 Print positions: 80; 132; 96 Printing: bidirectional Buffer: Up to 128K bytes Feed: Tractor; Friction Carriage width: 10 in. Introduced: 1985 Cost: $949

☐ SD-10
40; 160 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 40; 80; 96; 136 Printing: bidirectional Buffer: 2K bytes Feed: Tractor; Friction Carriage width: 10 in. Introduced: 1985 Cost: $449

☐ SD-15
40; 160 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 136; 163; 232 Printing: bidirectional Buffer: 16K bytes Feed: Tractor; Friction Carriage width: 15 in. Introduced: 1985 Cost: $599

☐ SG-10
30; 120 cps Type: Dot matrix Matrix: 9 X 9; 18 X 9; 18 X 18 Character set: 64; 96; 32 Print positions: 80; 96; 136 Printing: bidirectional Buffer: 816; (optional) 4K; 8K bytes Feed: Tractor; Friction Carriage width: 10 in. Introduced: 1985 Cost: $299

☐ SG-15
30; 120 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 136; 164; 232 Printing: bidirectional Buffer: 816 bytes Feed: Tractor; Friction Carriage width: 15 in. Introduced: 1985 Cost: $499

☐ SR-10
50; 200 cps Type: Dot matrix Matrix: 9 X 9; 18 X 18 Character set: 96 Print positions: 40; 80; 96; 136 Printing: bidirectional Buffer: 2K bytes Feed: Tractor; Friction Introduced: 1985 Cost: $649

☐ SR-15
50; 200 cps Type: Dot matrix Matrix: 9 X 9; 18 X 18 Character set: 96 Print positions: 136; 164; 233 Printing: bidirectional Buffer: 16K bytes Feed: Tractor; Friction Carriage width: 15 in. Introduced: 1985 Cost: $799

☐ STX-10
60 cps Type: Dot matrix Print positions: 40; 80 Printing: bidirectional Carriage width: 8.5 in. Introduced: 1985 Cost: $199

SUMITRONICS, INC.
(subsidiary of Sumitomo Corp.)

☐ Sumicom 1120
18 cps Type: Daisy wheel Character set: 96 Printing: bidirectional Buffer: 2K bytes Feed: Friction; (optional) Tractor; Pin Carriage width: 13 in. Introduced: 1984 Cost: $495

SWINTEC CORP.

☐ Compumate 2100
20 cps Type: Daisy wheel Character set: 100 Print positions: 172 Printing: bidirectional Buffer: 256 bytes Feed: Tractor; Friction Carriage width: 15 in. Support equip: Cables Units sold: 10,000 since 1984 Cost: $599

SYNTEST CORP.

☐ SP-200G
24 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 20 Buffer: 20 bytes Feed: Friction Carriage width: 2.25 in. Units sold: 150 since 1984 Cost: $365

☐ SP-2010
130 cps Type: Dot matrix Print positions: 80 Buffer: 7K bytes Feed: Roll; Fanfold Carriage width: 19 in. Introduced: 1985 Cost: $985

☐ SP-400G
24 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 40 Buffer: 40 bytes Feed: Friction Carriage width: 3 1/8 in. Units sold: 500 since 1983 Cost: $365

☐ SP-700
108 lpm Type: Dot matrix Matrix: 5 X 7 Character set: 103 Print positions: 40 Printing: bidirectional Buffer: 40 bytes Feed: Friction Carriage width: 2.75 in. Units sold: 250 since 1983 Cost: $385

TAB PRODUCTS CO.
Electronic Office Products

☐ Model 184
200 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 136; 231 Resolution: 72 X 72; 144 X 144 dots per inch Printing: bidirectional Buffer: 2K bytes Feed: Tractor; Friction Carriage width: 15.5 in. Units sold: 2,500 since 1982 Cost: $1,095

☐ M20/M21
120 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 80; 132 Resolution: 64 X 64 dots per inch Printing: bidirectional Buffer: 2K bytes Feed: Friction; Pin Carriage width: 9 in. Support equip: Cables Units sold: 1,000 since 1985 Cost: $299

TANDY/RADIO SHACK

☐ DMP-105
80 cps Type: Dot matrix Matrix: 8 X 9 Character set: 96 Print positions: 80 Resolution: 480-800 dots per inch Printing: bidirectional Buffer: 1K bytes Feed: Tractor; Friction Carriage width: 9.5 in. Support equip: Cables; Software Introduced: 1984 Cost: $200

☐ DMP-130
25; 100 cps Type: Dot matrix Matrix: 8 X 9; 8 X 16 Character set: 128 Print positions: 10 Printing: bidirectional Buffer: 1K bytes Feed: Tractor; Friction Carriage width: 9.5 in. Support equip: Cables Introduced: 1985 Cost: $350

☐ DMP-2110
230 cps Type: Dot matrix Matrix: 24 X 36 Character set: 128 Print positions: 132 Printing: bidirectional Introduced: 1984 Cost: $1,295

☐ DMP-2200
380 cps Type: Dot matrix Matrix: 9 X 9; 15 X 9 Character set: 128 Print positions: 132 Printing: bidirectional Buffer: 1K bytes Feed: Tractor Carriage width: 16 in. Introduced: 1985 Cost: $1,695

☐ DMP-430
180 cps Type: Dot matrix Matrix: 18 X 24 Character set: 128 Print positions: 132 Printing: bidirectional Buffer: 1K bytes Feed: Tractor; Friction Carriage width: 15 in. Support equip: Cables Introduced: 1985 Cost: $899

TELECOM TERMINAL SYSTEMS

☐ Model 10W75
120 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 80 Buffer: 1K bytes Feed: Tractor Carriage width: 9.5 in. Units sold: 100 since 1981

TELEFILE COMPUTER PRODUCTS, INC.
(subsidiary of Telefile Computer Corp.)

☐ T2425
100; 160; 180; 192 cps Type: Dot matrix Matrix: 16 X 11; 24 X N Character set: 96 Print positions: 136; 163; 226 Printing: bidirectional Feed: Friction; Sheet Carriage width: 15 in. Introduced: 1984

TELEVIDEO SYSTEMS, INC.

☐ TP 740
35; 40 cps Type: Daisy wheel Character set: 96 Print positions: 132; 158; 198 Printing: bidirectional Buffer: 1.5K; (optional) 7.5K bytes Feed: Tractor; Friction; Sheet Carriage width: 15 in. Support equip: Cables Introduced: 1985 Cost: $995

☐ TP 760
48; 57 cps **Type:** Character **Character set:** 96 **Print positions:** 132; 158; 197 **Printing:** bidirectional **Buffer:** 1.5K; (optional) 7.5K bytes **Carriage width:** 15 in. **Introduced:** 1985 **Cost:** $1,195

☐ TP 780
67; 90 cps **Type:** Character **Character set:** 96 **Print positions:** 132; 158; 197 **Printing:** bidirectional **Carriage width:** 15 in. **Introduced:** 1985 **Cost:** $1,495

☐ TP 790
67; 90 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 197 **Resolution:** 120 X 48 dots per inch **Printing:** bidirectional **Buffer:** 1.5K; (optional) 7.5K bytes **Introduced:** 1986 **Cost:** $1,495

TELEX COMPUTER PRODUCTS, INC.
(subsidiary of Telex Corp.)

☐ Model 186
40 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 136; 163 **Printing:** bidirectional **Feed:** Tractor; Friction **Carriage width:** 15 in. **Introduced:** 1983 **Cost:** $2,250

TELEX COMPUTER PRODUCTS, INC.
Word Processing Division

☐ R8188-1
40-55 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 197 **Printing:** bidirectional

☐ R8188-2
40-55 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 197 **Printing:** bidirectional

TEMPEST TECHNOLOGIES, INC.

☐ DWP5155 Tempest
45 cps **Type:** Daisy wheel **Character set:** 96; 88; 92 **Print positions:** 132; 158; 196 **Resolution:** 120 X 48 dots per inch **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor; Friction; Sheet **Introduced:** 1983

☐ DWP5155-SQ Tempest Super-Quiet
45 cps **Type:** Daisy wheel **Character set:** 96; 88; 92 **Print positions:** 132; 158; 196 **Resolution:** 120 X 48 dots per inch **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor; Friction; Sheet **Introduced:** 1985

☐ SLP3184 Tempest
45; 180 cps **Type:** Dot matrix **Matrix:** 9 X 9 **Character set:** 96 **Print positions:** 136 **Resolution:** 72 X 72; 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 6K (option) bytes **Feed:** Tractor; Friction; Pin; (optional) Sheet **Carriage width:** 15.5 in. **Introduced:** 1985

☐ SLP3304 Tempest
100; 200; 300 cps **Type:** Dot matrix **Matrix:** 9 X 18 **Character set:** 96 **Print positions:** 136 **Resolution:** 72 X 72; 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 6K (option) bytes **Feed:** Tractor; Friction; Pin; (optional) Sheet **Carriage width:** 15.5 in. **Introduced:** 1985

☐ SLP3404 Tempest
100; 400 cps **Type:** Dot matrix **Matrix:** 9 X 18 **Character set:** 96 **Print positions:** 136 **Resolution:** 72 X 72; 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 6K (option) bytes **Feed:** Tractor; Friction; Pin; (optional) Sheet **Carriage width:** 15.5 in. **Introduced:** 1985 **Cost:**

☐ SLP5310 Tempest
150 cps **Type:** Dot matrix **Matrix:** 9 X 7 **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Feed:** Tractor **Carriage width:** 15 in. **Introduced:** 1983

TESSERA

☐ CF-18
200 cps **Type:** Dot matrix **Matrix:** 9 X 9; 48 X 18 **Character set:** 255 **Print positions:** 132 **Resolution:** 144 X 480 dots per inch **Printing:** bidirectional **Buffer:** 6K bytes **Feed:** Tractor; Friction **Carriage width:** 14-7/8 in. **Support equip:** Software; ROM **Units sold:** 1,500 since 1985 **Cost:** $1,740

TEXAS INSTRUMENTS

☐ Model 850XL
35, 150 cps **Type:** Dot matrix **Matrix:** 9 X 9; 15 X 9 **Character set:** 64; 96 **Print positions:** 40; 80; 48; 66; 96; 134 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 256; (optional) 4K bytes **Feed:** Tractor; Friction **Carriage width:** 11 in. **Support equip:** Software **Units sold:** 150,000 since 1983 **Cost:** $599

☐ Model 855
35; 150 cps **Type:** Dot matrix **Matrix:** 9 X 9; 32 X 18 **Character set:** 96 **Print positions:** 40; 80; 48; 66; 96; 134 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 256; (optional) 4K bytes **Feed:** Tractor; Friction **Carriage width:** 11 in. **Support equip:** Software **Introduced:** 1983 **Cost:** $739

☐ Model 857
35; 150 cps **Type:** Dot matrix **Matrix:** 9 X 9; 32 X 18 **Character set:** 96 **Print positions:** 40; 80; 48; 66; 96; 134 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 256; 4K bytes **Feed:** Tractor; Friction **Carriage width:** 11 in. **Support equip:** Software **Introduced:** 1986 **Cost:** $899

☐ Model 860XL
35; 150 cps **Type:** Dot matrix **Matrix:** 9 X 9; 15 X 18 **Character set:** 64; 96 **Print positions:** 40; 80; 48; 66; 96; 134 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 256; (optional) 4K bytes **Feed:** Tractor; Friction **Carriage width:** 16 in. **Support equip:** Software **Units sold:** 25,000 since 1985 **Cost:** $899

☐ Model 865
35; 150 cps **Type:** Dot matrix **Matrix:** 9 X 9; 32 X 18 **Character set:** 96 **Print positions:** 40; 80; 48; 66; 96; 134 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 256; (optional) 4K bytes **Feed:** Tractor; Friction **Carriage width:** 16 in. **Support equip:** Software **Units sold:** 50,000 since 1984 **Cost:** $999

☐ Model 880 AT
75; 300 cps **Type:** Dot matrix **Matrix:** 7 X 9; 15 X 18 **Character set:** 64; 96 **Print positions:** 80; 66; 132; 220 **Resolution:** 144 X 144 dots per inch **Printing:** bidirectional **Buffer:** 2K; (optional) 4K; 16K bytes **Feed:** Tractor **Carriage width:** 15 in. **Introduced:** 1985 **Cost:** $2,195

3M/TELETERMINALS PROJECT

☐ Model 1902
40 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 95 **Print positions:** 40; 80 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Friction **Support equip:** Cables **Introduced:** 1983 **Cost:** $299

☐ Model 1904
40 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 95 **Print positions:** 40; 80 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Friction **Introduced:** 1983 **Cost:** $289

☐ Model 1912
40 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 95 **Print positions:** 80; 136 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Friction **Support equip:** Cables **Introduced:** 1983 **Cost:** $299

TOSHIBA AMERICA, INC.
Information Systems Division

☐ P1340
54-144 cps **Type:** Dot matrix **Matrix:** 24 X 18; 16 X 11 **Character set:** 96; 32; 31 **Print positions:** 80; 132; 96 **Resolution:** 180 X 180 dots per inch **Printing:** bidirectional **Buffer:** 256 bytes **Feed:** Friction; Pin **Carriage width:** 10 in. **Introduced:** 1984 **Cost:** $799

☐ P351
100-288 cps **Type:** Dot matrix **Matrix:** 24 X 24; 16 X 11 **Character set:** 96; 31 **Print positions:** 136; 163; 226 **Resolution:** 180 X 180; 180 X 360 dots per inch **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Friction **Carriage width:** 15 in. **Introduced:** 1985 **Cost:** $1,699

☐ P351C
100; 240; 288 cps **Type:** Dot matrix **Character set:** 96 **Introduced:** 1986 **Cost:** $1,749

TROY
(division of Data Card Corp.)

☐ Remote Office Imprinter (ROI)
25; 32; 36 cps **Type:** Daisy wheel **Character set:** 64; 96 **Print positions:** 132; 105; 158 **Printing:** bidirectional **Feed:** Tractor **Carriage width:** 15.25 in. **Support equip:** Cables **Units sold:** 195 since 1983

TTP ENTERFRISES, INC.

☐ P-100 Model 10
100 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96 **Print positions:** 80 **Printing:** bidirectional **Buffer:** 7K bytes **Feed:** Friction **Carriage width:** 16.5 in. **Support equip:** Software **Units sold:** 250 since 1984 **Cost:** $1,495

TTX GROUP, INC.

☐ TTX 1014/TTX 1114
10; 12; 14; 15; 18 cps **Type:** Daisy wheel **Character set:** 100 **Print positions:** 100 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction; Pin **Carriage width:** 15 in. **Units sold:** 2,000 since 1986 **Cost:** $369; $395

☐ TTX 165D
165 cps **Type:** Dot matrix **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Introduced:** 1986 **Cost:** $395

VERSATILE COMPUTER PRINTING, INC.

☐ Model 820-28
165 cps **Type:** Dot matrix **Matrix:** 9 X 7 **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 6K bytes **Feed:** Tractor **Carriage width:** 15 in. **Support equip:** Cables **Units sold:** 5 since 1985

☐ Model 840-4C
260 cps **Type:** Dot matrix **Matrix:** 9 X 14 **Character set:** 128 **Print positions:** 140 **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor **Carriage width:** 17 in. **Support equip:** Cables **Units sold:** 10 since 1985

☐ Model 844-30
300 lpm **Type:** Dot matrix **Matrix:** 9 X 9; 9 X 7 **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 4K bytes **Feed:** Tractor **Carriage width:** 16 in. **Support equip:** Cables; Software **Units sold:** 5 since 1984

WALLACE COMPUTER SERVICES, INC.
Business Data Division

☐ W4150
150 lpm **Type:** Dot matrix **Matrix:** 9 X 7; 9 X 9 **Character set:** 96 **Print positions:** 132 **Buffer:** 1.9K bytes **Feed:** Tractor **Carriage width:** 16 in. **Support equip:** Software **Units sold:** 200 since 1983 **Cost:** $11,700

☐ W4300
300 lpm **Type:** Dot matrix **Matrix:** 9 X 7; 9 X 9 **Character set:** 96 **Print positions:** 132; 158; 175; 198; 224 **Buffer:** 1.9K bytes **Feed:** Tractor **Carriage width:** 16 in. **Support equip:** Software **Units sold:** 500 since 1980 **Cost:** $15,200

WANG LABORATORIES, INC.

☐ Colorwriter 19
40; 108; 200 cps **Type:** Dot matrix **Character set:** 96 **Print positions:** 136 **Printing:** bidirectional **Units sold:** 1,500 since 1985 **Cost:** $1,395

☐ PC/WOA-PM015
40 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 3K bytes **Feed:** Tractor; Sheet **Carriage width:** 15 in. **Units sold:** 10,000 since 1985 **Cost:** $895

WICAT SYSTEMS, INC.

☐ Wicat Prism Printer
110-200 cps **Type:** Dot matrix **Matrix:** 36 X 9 **Character set:** 128 **Print positions:** 163 **Printing:** bidirectional **Buffer:** 3.5K bytes **Feed:** Tractor; Friction **Carriage width:** 14 in. **Units sold:** 1,000 since 1982 **Cost:** $1,747

XEROX CORP.
Printing Systems Division

☐ Model 1730-320
40 cps **Type:** Daisy wheel **Character set:** 96; 88; 92 **Print positions:** 132; 158; 192 **Printing:** bidirectional **Buffer:** 1.3K bytes **Introduced:** 1983 **Cost:** $2,395

☐ Model 1730-340
40 cps **Type:** Daisy wheel **Character set:** 96; 88; 92; 192 **Print positions:** 132; 158; 192 **Printing:** bidirectional **Buffer:** 1.3K bytes **Introduced:** 1983 **Cost:** $2,995

XEROX CORP.
Printing Systems Division

☐ Advantage D25
25 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 512 bytes **Feed:** Tractor; Sheet **Carriage width:** 15.2 in. **Introduced:** 1984 **Cost:** $745

☐ Advantage D80
80 cps **Type:** Daisy wheel **Character set:** 128 **Print positions:** 132; 158 **Printing:** bidirectional **Buffer:** 1.5K bytes **Feed:** (optional) Tractor **Carriage width:** 15.25 in. **Support equip:** (optional) Cables **Units sold:** 100 since 1985 **Cost:** $2,195

☐ Advantage D80IF
80 cps **Type:** Daisy wheel **Character set:** 200 **Print positions:** 132; 158; 198; 264 **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 15.25 in. **Introduced:** 1984 **Cost:** $2,995

☐ Companion 34LQ
60; 270 cps **Type:** Dot matrix **Matrix:** 9 X 11 **Character set:** 96 **Print positions:** 132 **Printing:** bidirectional **Buffer:** 256; 4K bytes **Feed:** Tractor; Friction **Carriage width:** 15 in. **Introduced:** 1985 **Cost:** $1,599

☐ Model 12CQI
150 cps **Type:** Dot matrix **Matrix:** 9 X 11; 16 X 36 **Character set:** 96 **Print positions:** 80 **Buffer:** 2K bytes **Carriage width:** 15 in. **Introduced:** 1984 **Cost:** $699

☐ Model 32CQI
150 cps **Type:** Dot matrix **Matrix:** 9 X 11; 16 X 36 **Character set:** 96 **Print positions:** 132 **Carriage width:** 15 in. **Introduced:** 1984 **Cost:** $899

☐ Model 635
40; 55 cps **Type:** Daisy wheel **Character set:** 98 **Print positions:** 132; 158; 197 **Buffer:** 1K bytes **Carriage width:** 16.5 in. **Introduced:** 1985 **Cost:** $1,485

☐ P10I
80 cps **Type:** Dot matrix **Matrix:** 11 X 9 **Printing:** bidirectional **Buffer:** 1K bytes **Feed:** Tractor; Friction **Carriage width:** 10 in. **Introduced:** 1984 **Cost:** $499

☐ Series P38
400 cps **Type:** Dot matrix **Matrix:** 7 X 7 **Character set:** 96 **Print positions:** 132 **Buffer:** 256 bytes **Feed:** Tractor **Carriage width:** 15 in. **Introduced:** 1983 **Cost:** $2,195

YOKOGAWA CORP. OF AMERICA

☐ NP300
30; 60 cps **Type:** Dot matrix **Matrix:** 16 X 14 **Print positions:** 80 **Feed:** Friction; Pin **Carriage width:** 10 in. **Introduced:** 1984

ZIYAD, INC.

☐ PaperJet 2000
63; 105 cps **Type:** Daisy wheel **Character set:** 96 **Print positions:** 132; 158; 198 **Printing:** bidirectional **Buffer:** 512 bytes **Feed:** Sheet **Carriage width:** 14.5 in. **Support equip:** Cables **Introduced:** 1985 **Cost:** $4,495

PAGE/LASER PRINTERS

ACOM COMPUTER CO.

☐ LX8219
8 pages/min. **Type:** Laser **Introduced:** 1986 **Cost:** $6,995

AEDEX CORP.

☐ LaserBar 508
6; 8 pages/min. **Type:** Laser **Character set:** 128 **Resolution:** 300 X 300 dots per inch **Feed:** Sheet **Carriage width:** 8.5 in. **Units sold:** 200 since 1986 **Cost:** $3,995

☐ LaserBar 608
8 pages/min. **Type:** Laser **Carriage width:** 8.5 in. **Introduced:** 1986 **Cost:** $4,995-$5,895

AMERICAN COMPUTER HARDWARE CORP.

☐ ACIE-3000
30 pages/min. **Type:** Cold pressure fusing **Character set:** 96 **Print positions:** 80; 132; 198 **Resolution:** 300 X 300 dots per inch **Carriage width:** 8.5 in. **Cost:** $13,990

☐ Model 5100
5,000 lpm; 60 pages/min. **Type:** Cold pressure fusing **Character set:** 252 **Print positions:** 132-225 **Resolution:** 240 X 240 dots per inch **Buffer:** 1M bytes **Feed:** Friction; Elevator delivery **Carriage width:** 8.5 in.

☐ Model 5200
5,000 lpm; 60 pages/min. **Type:** Cold pressure fusing **Character set:** 126 **Print positions:** 132-225 **Resolution:** 240 X 240 dots per inch **Buffer:** 1M bytes **Feed:** Friction **Carriage width:** 8.5 in.

☐ Model 5600
7,500 lpm; 90 pages/min. **Type:** Cold pressure fusing **Character set:** 252 **Print positions:** 132-225 **Resolution:** 240 X 240 dots per inch **Buffer:** 1M bytes **Feed:** Pin **Carriage width:** 9-7/8 in. **Introduced:** 1984

ANSER TECHNOLOGY, INC.

☐ Vision System
125 pages/min. **Type:** Ionography **Character set:** 256 **Print positions:** User-defined **Resolution:** 240 X 240 matrix **Printing:** bidirectional **Buffer:** 2M bytes **Feed:** Tractor; Roll; Cut **Carriage width:** 9.5 in. **Support equip:** Software **Units sold:** 10 since 1985 **Cost:** $166,000

BDS CORP.

☐ L2610
26 pages/min. **Type:** Laser **Units sold:** 1,000 since 1985 **Cost:** $12,900

☐ L2630
26 pages/min. **Type:** Laser **Character set:** 255 **Units sold:** 1,000 since 1985 **Cost:** $14,900

☐ Model 630/8
8.1 pages/min. **Type:** Laser **Print positions:** 80; 132; 96; 140 **Resolution:** 300 X 300 **Feed:** Sheet **Units sold:** 500 since 1985 **Cost:** $3,495

CANON U.S.A., INC.

☐ LBP-200S A1
8 pages/min. **Type:** Laser **Character set:** 10; 12; 13.3; 15 **Buffer:** 128K bytes **Support equip:** Cables **Introduced:** 1985 **Cost:** $3,-050

☐ LBP-8A1
8 pages/min. **Type:** Laser **Character set:** 10; 12; 13.3; 15 **Resolution:** 300 X 300 dots per inch **Carriage width:** 14 in. **Cost:** $3,000

☐ LBP-8A2
8 pages/min. **Type:** Laser **Resolution:** 300 X 300 dots per inch **Carriage width:** 14.2 in.

CENTRONICS DATA COMPUTER CORP.

☐ PagePrinter 8
8 pages/min. **Type:** Laser **Introduced:** 1986 **Cost:** $2,495

CIE TERMINALS

☐ LIPS 10
10 pages/min. **Type:** Laser **Introduced:** 1985 **Cost:** $3,495

COMPOSITION TECHNOLOGY INTERNATIONAL (CTI)

☐ PageComposer C3
8 pages/min. **Type:** Laser **Resolution:** 300 dots per inch **Feed:** Sheet **Carriage width:** 11 in. **Units sold:** 156 since 1985 **Cost:** $4,495

☐ PageComposer R3
8 pages/min. **Type:** Laser **Character set:** 196 **Resolution:** 300 dots per inch **Feed:** Sheet **Carriage width:** 11 in. **Units sold:** 1 since 1986 **Cost:** $6,995

COMPUTER LANGUAGE RESEARCH, INC.
Electronic Form Systems Division

☐ Formwriter 2A Laser Printing System
500 lpm; 6; 8 pages/min. **Type:** Laser **Resolution:** 300 dots per inch **Carriage width:** 11 in. **Support equip:** Cables; Software; PC Adapter Card **Introduced:** 1984 **Cost:** $4,995

CORDATA

☐ Cordata Desktop Printshop
8 pages/min. **Type:** Laser **Resolution:** 300 X 300 dots per inch **Buffer:** 8K; 400K (graphics) bytes **Feed:** Sheet **Carriage width:** 8.5 in. **Support equip:** Cables; Software **Units sold:** 1,000 since 1984 **Cost:** $2,995

☐ LP-300; LP-300X
8 pages/min. **Type:** Laser **Cost:** $2,995; $3,895

CORPORATE DATA SCIENCES, INC.

☐ CDS 2300
8 pages/min. **Type:** Laser **Resolution:** 300 X 300 dots per inch **Buffer:** 1.2K bytes **Feed:** Friction **Carriage width:** 8.5 in. **Support equip:** Cables **Units sold:** 75 since 1985 **Cost:** $5,995

CPT CORP.

☐ CPT Page Printer II
20 pages/min. **Type:** Drum; Laser **Character set:** 133 **Print positions:** 84; 139 **Resolution:** 240 X 240 dots per inch **Buffer:** 4K bytes **Feed:** Sheet **Carriage width:** 14 in. **Units sold:** 200 since 1984 **Cost:** $19,900

DATA GENERAL CORP.

☐ Model 4557
8 pages/min. **Type:** Laser **Carriage width:** 14 in. **Introduced:** 1985 **Cost:** $3,500

☐ Model 4558
8 pages/min. **Type:** Laser **Resolution:** 300 X 300 dots per inch **Carriage width:** 14 in. **Introduced:** 1985 **Cost:** $5,995

DATA RECORDING SYSTEM, INC.

☐ LaserScribe 1000
9.6 pages/min. **Resolution:** 400 X 400; 500 X 500; 800 X 800; 1,000 X 1,000 dots per inch **Carriage width:** 11.69 in. **Introduced:** 1986

☐ LaserScribe 8415
15 pages/min. **Type:** Drum **Resolution:** 400 X 400; 500 X 500; 800 X 800; 1,000 X 1,000 dots per inch **Feed:** Sheet **Carriage width:** 11.69 in. **Introduced:** 1985

DATA SYSTEMS HARDWARE

☐ VX01X
26 pages/min. **Type:** Laser **Character set:** 96; 128; 256 **Print positions:** 132 **Resolution:** 300 X 300 dots per inch **Feed:** Cassette **Carriage width:** 11 in. **Support equip:** Cables; Software **Units sold:** 100 since 1985

☐ VX01Y
12 pages/min. **Type:** Laser **Character set:** 96; 128; 256 **Print positions:** 132 **Resolution:** 300 X 300 dots per inch **Feed:** Sheet **Carriage width:** 11 in. **Support equip:** Cables **Units sold:** 100 since 1985

DATASOUTH COMPUTER CORP.

☐ Pagewriter 8
8 pages/min. **Type:** Non-impact dot matrix **Character set:** 96 **Resolution:** 300 X 300 dots per inch **Carriage width:** 8.5 in. **Introduced:** 1986 **Cost:** $2,995

DELPHAX SYSTEMS

☐ S6000
60 pages/min. **Type:** Drum **Print positions:** 132 **Resolution:** 240 X 240 dots per inch **Buffer:** 256K bytes **Feed:** Sheet **Carriage width:** 8.5 in. **Introduced:** 1984 **Cost:** $75,000

DEREX, INC.

☐ Derex Elpho 20
20 pages/min. **Character set:** 140 **Print positions:** 150 **Resolution:** 300 X 300 dots per inch **Feed:** Friction **Carriage width:** 14 in. **Support equip:** Cables **Units sold:** 200 since 1984 **Cost:** $16,500

☐ Derex S6000
60; 75 pages/min. **Character set:** 128 **Print positions:** 132; 188 **Resolution:** 240 X 240 dots per inch **Buffer:** 2K bytes **Feed:** Sheet **Carriage width:** 11 in. **Support equip:** Cables **Units sold:** 50 since 1984 **Cost:** $59,950

EF INDUSTRIES

☐ DTC/Kidron OCTAVE
8 pages/min. **Resolution:** 90,000 dots per inch **Buffer:** 128K bytes

FACIT, INC.

☐ Model 4580 (Opus 1)
12 pages/min. **Type:** Laser **Character set:** 480 **Resolution:** 300 dots per inch **Printing:** bidirectional **Buffer:** 128K bytes **Feed:** Friction **Carriage width:** 8.5 in. **Introduced:** 1985 **Cost:** $9,500

☐ Opus 2e
8 pages/min. **Type:** Laser **Introduced:** 1986 **Cost:** $3,495

GENERAL BUSINESS TECHNOLOGY, INC.

☐ GBT 6600XP
12 pages/min. **Type:** Laser **Character set:** 98 **Print positions:** 198 **Resolution:** 300 X 300 dots per inch **Buffer:** 30K bytes **Feed:** Friction **Carriage width:** 8.5 in. **Support equip:** Cables **Introduced:** 1982 **Cost:** $16,995

☐ GBT 6630DW
8 pages/min. **Type:** Drum **Character set:** 98 **Print positions:** 132; 198 **Resolution:** 300 X 300 dots per inch **Buffer:** 256 bytes **Feed:** Friction **Carriage width:** 8.5 in. **Support equip:** Cables **Introduced:** 1985 **Cost:** $4,995; Lease (mo.) —$183

☐ GBT 6630LS
8 pages/min. **Type:** Drum **Character set:** 98 **Print positions:** 40; 80; 132; 198 **Resolution:** 300 X 300 dots per inch **Buffer:** 256 bytes **Feed:** Friction **Carriage width:** 8.5 in. **Support equip:** Cables **Introduced:** 1984 **Cost:** $4,495; Lease (mo.) —$165

☐ GBT 6630PC
8 pages/min. **Type:** Laser **Character set:** 98 **Print positions:** 198 **Resolution:** 300 X 300 dots per inch **Buffer:** 30K bytes **Feed:** Friction **Carriage width:** 14 in. **Support equip:** Cables **Introduced:** 1984 **Cost:** $2,995

☐ GBT 6630XP
8 pages/min. **Type:** Laser **Character set:** 96; 98 **Print positions:** 198 **Resolution:** 300 X 300 dots per inch **Buffer:** 30K bytes **Feed:** Friction **Carriage width:** 8.5 in. **Support equip:** Cables **Introduced:** 1984 **Cost:** $4,995; Lease (mo.) —$183

☐ GBT 6640XT
30 pages/min. **Type:** Ion-deposition **Introduced:** 1986 **Cost:** $14,995

GENERAL OPTRONICS CORP.

☐ Holloscan 28 Electronic Page Printer
2,600 lpm **Type:** Laser xerography; Non-impact **Units sold:** 100 since 1982 **Cost:** $11,995; $6,000

GENICOM CORP.

☐ Model 5010
10 pages/min. **Type:** Laser **Character set:** 256 **Resolution:** 300 X 300 dots per inch **Buffer:** 128K; 512K bytes **Feed:** Sheet **Introduced:** 1986 **Cost:** $2,995; $3,390

GTC TECHNOLOGIES, INC.

☐ The Blaser
8 pages/min. **Type:** Laser **Resolution:** 300 X 300 dots per inch **Buffer:** 64K bytes **Feed:** Sheet **Carriage width:** 8.5 in. **Support equip:** Cables **Units sold:** 400 since 1985 **Cost:** $2,995-$3,745

HANZON DATA, INC.

☐ LP 3000
8 pages/min. **Type:** Laser **Print positions:** 132 **Units sold:** 200 since 1986 **Cost:** $3,995

HETRA COMPUTER AND COMMUNICATIONS INDUSTRIES, INC.

☐ Model 3024 Laser Printer
24 pages/min. **Type:** Laser **Resolution:** 300 X 300 dots per inch **Feed:** Friction **Carriage width:** 17 in. **Units sold:** 10 since 1985 **Cost:** $21,500

HEWLETT-PACKARD CO.

☐ HP 2686A (LaserJet)
8 pages/min. **Type:** Electrophotographic cartridge **Resolution:** 300 X 300 dots per inch **Introduced:** 1984 **Cost:** $3,495

☐ LaserJet PLUS
8 pages/min. **Type:** Laser **Introduced:** 1985 **Cost:** $3,995

☐ LaserJet 500 PLUS
8 pages/min. **Type:** Laser **Printing:** bidirectional **Introduced:** 1986 **Cost:** $4,995

☐ Model 2689A
3,000 lpm **Resolution:** 180 X 180 dots per in. **Carriage width:** 12.7 in. **Cost:** $99,950

HITACHI AMERICA, LTD.

OAS Division

☐ SL-1000
12 pages/min. **Character set:** 192 **Resolution:** 300 dots per inch **Introduced:** 1984

HOWTEK, INC.

☐ Pixelmaster
2 pages/min. **Type:** Inkjet **Printing:** bidirectional **Introduced:** 1986 **Cost:** $2,995

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Model 3812
9.6; 12 pages/min. **Type:** Laser **Resolution:** 240 X 240 dots per inch **Feed:** Sheet **Carriage width:** 14 in. **Introduced:** 1985 **Cost:** $7,490

☐ Pageprinter
12 pages/min. **Resolution:** 240 X 240 dots per inch **Feed:** Sheet **Carriage width:** 11 in. **Introduced:** 1985 **Cost:** $7,490

IMAGEN CORP.

☐ ImageStation
8 pages/min. **Type:** Laser **Character set:** 148 **Print positions:** 65; 536 **Resolution:** 300 X 300 dots per inch **Printing:** bidirectional **Buffer:** 256K; 512K bytes **Feed:** Sheet **Carriage width:** 8.5 in. **Support equip:** Cables **Introduced:** 1985 **Cost:** $5,950-$7,200

ITT QUME CORP.

☐ LaserTen Plus
10 pages/min. **Type:** Drum **Character set:** 96; 256; 96; 188 **Print positions:** 132 **Resolution:** 300 X 300 dots per inch **Carriage width:** 11 in. **Support equip:** Cables **Introduced:** 1986 **Cost:** $3,395

KEL, INC.

☐ M 5311
20 pages/min. **Type:** Laser **Character set:** 96; 128 **Resolution:** 300 dots per inch **Buffer:** 16K; 2M bytes **Feed:** Sheet **Carriage width:** 17 in. **Units sold:** 2 since 1986 **Cost:** $17,800

LASERMASTER, LTD.

☐ LaserMaster XT/P 4080
8 pages/min. **Type:** Belt **Character set:** 128 **Resolution:** 300 X 300 **Buffer:** 1M bytes **Feed:** Friction **Carriage width:** 8.5 in. **Support equip:** Cables; Software **Units sold:** 200 since 1986 **Cost:** $4,495; Lease (mo.) —$250

MANNESMANN TALLY

☐ MT 910sl
10 pages/min. **Type:** Laser **Introduced:** 1986 **Cost:** $3,695

MITEK SYSTEMS, INC.

☐ 200T Tempested Desk Top Laser Printer
8 pages/min. **Type:** Drum **Print positions:** 132 **Resolution:** 300 X 300 **Printing:** bidirectional **Buffer:** 500K bytes **Feed:** Single sheet automatic **Carriage width:** 8.5 in. **Introduced:** 1985 **Cost:** $10,400

OFFICE AUTOMATION SYSTEMS, INC.

☐ LaserPro EXPRESS
8 pages/min. **Introduced:** 1986 **Cost:** $1,995

☐ LaserPro 1510
15 pages/min. **Type:** Laser **Introduced:** 1986 **Cost:** $6,995

☐ LaserPro 8
8 pages/min. **Type:** Laser **Resolution:** 300 dots per inch **Carriage width:** 11 in. **Introduced:** 1986 **Cost:** $3,750-$4,995

PERSONAL COMPUTER PRODUCTS, INC. (PCPI)

☐ Daisylaser 1000
8 pages/min. **Type:** Laser **Character set:** 128 **Print positions:** 132 **Resolution:** 300 X 300 **Printing:** bidirectional **Buffer:** 38K bytes **Feed:** Friction **Carriage width:** 8.5 in. **Introduced:** 1984 **Cost:** $3,495-$3,785

PRINTRONIX, INC.

☐ Laserprint 20
2,400 lpm; 20 pages/min. **Type:** Laser diode **Character set:** 96 **Print positions:** 132 **Resolution:** 240 X 240 dots per inch **Buffer:** 48K bytes **Feed:** Sheet **Carriage width:** 8.5 in. **Introduced:** 1985 **Cost:** $15,900

☐ L1012
12 pages/min. **Type:** Laser **Introduced:** 1986 **Cost:** $2,995

☐ L2120
20 pages/min. **Type:** Laser **Introduced:** 1986 **Cost:** $11,995

QMS, INC.

☐ QMS KISS
6 pages/min. **Type:** Laser **Resolution:** 300 X 300 dots per inch **Feed:** Sheet **Carriage width:** 14 in. **Introduced:** 1985 **Cost:** $1,-995

QUADRAM
(subsidiary of Intelligent Systems Corp.)

☐ QuadLaser
8 pages/min. **Type:** Laser **Resolution:** 300 dots per inch **Buffer:** 256K bytes **Feed:** Sheet **Carriage width:** 11 in. **Introduced:** 1985 **Cost:** $3,795-$4,495

RCA SERVICE CO.
Business Services and Systems

☐ RCA Laser Printer
8 pages/min. **Type:** Laser **Resolution:** 300 X 300 dots per inch **Introduced:** 1984

RICOH CORP.

☐ LP 4120 Tabletop Laser Printer
12 pages/min. **Character set:** 128 **Resolution:** 300 X 300 **Introduced:** 1983 **Cost:** $10,000; $13,995 (with controller)

☐ LP 4212 Tabletop Laser Printer
12 pages/min. **Type:** Laser transfer **Character set:** 128 **Print positions:** 80; 96; 120 **Units sold:** 1,500 since 1983 **Cost:** $10,-000

SYSCODE, INC.

☐ L300
8 pages/min. **Type:** Laser

TALARIS SYSTEMS, INC.

☐ Talaris 1200
12 pages/min. **Type:** Laser **Character set:** 256 **Print positions:** 255 **Resolution:** 300 dots per inch **Buffer:** 4K bytes **Feed:** Sheet **Carriage width:** 14 in. **Introduced:** 1984 **Cost:** $19,990

☐ Talaris 2400
24 pages/min. **Type:** Laser **Character set:** 256 **Print positions:** 255 **Resolution:** 300 dots per inch **Buffer:** 4K bytes **Feed:** Sheet **Carriage width:** 17 in. **Introduced:** 1984 **Cost:** $29,990

☐ Talaris 800
8 pages/min. **Type:** Laser **Character set:** 256 **Print positions:** 255 **Resolution:** 300 dots per inch **Buffer:** 4K bytes **Feed:** Sheet **Carriage width:** 14 in. **Introduced:** 1984 **Cost:** $7,990

☐ Talaris 810
8 pages/min. **Type:** Laser **Character set:** 256 **Print positions:** 255 **Resolution:** 300 dots per inch **Buffer:** 8K bytes **Feed:** Sheet **Carriage width:** 14 in. **Introduced:** 1985 **Cost:** $3,450

TELEFILE COMPUTER PRODUCTS, INC.
(subsidiary of Telefile Computer Corp.)

☐ T2465
12 pages/min. **Character set:** 98 **Resolution:** 300 X 300 dots per inch **Carriage width:** 14 in. **Introduced:** 1984

TEMPEST TECHNOLOGIES, INC.

☐ LZR5600 Tempest
26 pages/min. **Type:** Laser **Resolution:** 300 dots per inch **Feed:** Sheet **Introduced:** 1985

TEXAS INSTRUMENTS

☐ OmniLaser 2015
15 pages/min. **Introduced:** 1986 **Cost:** $5,995

☐ OmniLaser 2108
8 pages/min. **Introduced:** 1986 **Cost:** $5,995

☐ OmniLaser 2115
15 pages/min. **Introduced:** 1986 **Cost:** $7,995

TYX CORP.

☐ Lasertech 300
8 pages/min. **Type:** Laser **Introduced:** 1986 **Cost:** $9,995

XEROX CORP.
Printing Systems Division

☐ Model 3700
24 pages/min. **Type:** Laser **Character set:** 195 **Resolution:** 300 dots per inch **Carriage width:** 11 in. **Introduced:** 1985 **Cost:** $29,995; Lease (mo.) — $1,050

☐ Model 4045
10 pages/min. **Type:** Drum **Character set:** 195 **Resolution:** 300 dots per inch **Feed:** Friction **Carriage width:** 14 in. **Cost:** $4,995

☐ 2700 Distributed Electronic Printer
600 lpm; 12 pages/min. **Type:** Drum; Photoreceptor **Character set:** 195 **Resolution:** 300 dots per inch **Feed:** Tractor **Carriage width:** 8.5 in. **Introduced:** 1982 **Cost:** $18,995; Lease (mo.) — $570-$630

PRINTERS/PLOTTERS

ADVANCED MATRIX TECHNOLOGY, INC.

☐ AMT Office Printer
45; 100; 250 cps **Type:** Dot matrix **Matrix:** 9 X 7; 16 X 72; 32 X 72 **Character set:** 256 **Print positions:** 136; 232 **Resolution:** 240 X 480 dots per inch **Printing:** bidirectional **Buffer:** 40K bytes **Feed:** Tractor; Friction; Pin **Carriage width:** 15 in. **Introduced:** 1985 **Cost:** $1,845 (Model 200); $1,645 (Model 210)

AXIOM CORP.

☐ EX-820 Microplotter
160 cps **Type:** Dot matrix **Matrix:** 5 X 8 **Character set:** 96; 128 **Print positions:** 40; 80; 20 **Units sold:** 4,000 since 1977 **Cost:** $789

☐ IMP-3
100 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96 **Print positions:** 80; 132; 96 **Feed:** Tractor; Friction **Units sold:** 1,000 **Cost:** $699

☐ IMP-4
100 cps **Type:** Dot matrix **Matrix:** 7 X 9 **Character set:** 96; 128; 256 **Print positions:** 80; 132; 96 **Printing:** bidirectional **Buffer:** (optional) 2K bytes **Feed:** Tractor; Friction **Units sold:** 6,000 since 1980 **Cost:** $749

CENTRONICS DATA COMPUTER CORP.

☐ TIP-301
75-300 lpm **Type:** Dot matrix **Matrix:** 7 X 9; 16 X 16 **Character set:** 96 **Print positions:** 132; 176; 220 **Resolution:** 100 X 100 dots per inch **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 16 in. **Units sold:** 290 since 1984 **Cost:** $5,900

☐ TIP-302 Colorplot II
75-300 lpm **Type:** Dot matrix **Matrix:** 9 X 7; 16 X 16 **Character set:** 96 **Print positions:** 132; 176; 220 **Resolution:** 100 X 100 dots per inch **Printing:** bidirectional **Buffer:** 2K bytes **Feed:** Tractor **Carriage width:** 16 in. **Units sold:** 75 since 1984 **Cost:** $6,900

COMPUTER DESIGNED SYSTEMS, INC.
Commercial Systems Division

☐ PP-350
350 cps **Type:** Stylus **Character set:** User-defined **Print positions:** 132 **Printing:** bidirectional **Buffer:** 132 bytes **Feed:** Tractor; Sheet **Carriage width:** 14 in. **Units sold:** 900 since 1977 **Cost:** $10,000

CONTROL DATA CORP.

☐ 726 Graphics Printer
115 lpm **Type:** Dot matrix **Character set:** 96 **Print positions:** 132 **Cost:** $3,950; Lease (mo.) —$200

DEREX, INC.

☐ Derex 8050/8070
300; 400 cps **Type:** Dot matrix **Matrix:** 36 X 18 **Character set:** 96 **Print positions:** 132 **Resolution:** 84 X 84 dots per inch **Printing:** bidirectional **Buffer:** 5K bytes **Feed:** Tractor; Friction **Carriage width:** 14-7/8 in. **Support equip:** Cables **Units sold:** 1,000 since 1984 **Cost:** $1,695; Lease (mo.) —$60 (3 yr.)

DIGITEC CORP.

☐ Model 6470
42 cps **Type:** Dot matrix **Matrix:** 5 X 7 **Character set:** 64 **Print positions:** 21 **Buffer:** 35 bytes **Feed:** Friction **Introduced:** 1981 **Cost:** $489

HITACHI AMERICA, LTD.
OAS Division

☐ Model 672
5 cps; Plot speed: 200 mm per second **Character set:** 96 **Introduced:** 1983

INTEGREX, INC.

☐ Colorjet 132
40 cps **Type:** Dot matrix **Matrix:** 5 X 8 **Character set:** 231 **Print positions:** 80; 132 **Resolution:** 1,280 dots horizontally; 640 dots/line **Printing:** bidirectional **Buffer:** 4K; 16K (serial) bytes **Feed:** Roll; Sheet **Carriage width:** 8.5 in. **Introduced:** 1984 **Cost:** $795 (parallel); $950 (serial)

JDL, INC.

☐ JDL-750c
100; 180 cps **Type:** Dot matrix **Matrix:** 36 X 24; 18 X 24 **Character set:** 256 **Print positions:** 136; 163; 232 **Resolution:** 360 X 180; 180 X 180 dots per inch **Printing:** bidirectional **Buffer:** 16K; (optional) 48K bytes **Feed:** Friction; (optional) Tractor; Sheet **Carriage width:** 17 in. **Support equip:** ROM **Units sold:** 500 since 1986 **Cost:** $1,695

☐ JDL-750e
100; 180 cps **Type:** Dot matrix **Matrix:** 36 X 24; 18 X 24 **Character set:** 256 **Print positions:** 136; 163; 232 **Resolution:** 360 X 180; 180 X 180 dots per inch **Printing:** bidirectional **Buffer:** 16K; (optional) 48K bytes **Feed:** Friction; (optional) Tractor; Sheet **Carriage width:** 17 in. **Support equip:** ROM **Units sold:** 2,000 since 1986 **Cost:** $1,850

KIPP & ZONEN

☐ BD70
120 cps **Type:** Dot matrix **Matrix:** 5 X 8 **Character set:** 96 **Print positions:** 40; 80; 48; 68; 96; 137 **Buffer:** 1.8K bytes **Feed:** Pin **Carriage width:** 8.5 in. **Support equip:** ROM **Units sold:** 200 since 1985 **Cost:** $888

NEC INFORMATION SYSTEMS, INC.

☐ Color Pinwriter CP2
30; 90; 180 cps Matrix: 13 X 9; 21 X N Character set: 96 Print positions: 80; 96; 136 Resolution: 240 X 240; 240 X 216 Printing: bidirectional Buffer: 3.5K bytes Feed: Friction Carriage width: 10 in. Units sold: 50,000 since 1984 Cost: $999

☐ Color Pinwriter CP3
60; 90; 180 cps Matrix: 13 X 9; 21 X N Character set: 96 Print positions: 136; 163; 233 Resolution: 240 X 240; 240 X 216 Printing: bidirectional Buffer: 3.5K bytes Feed: Friction Carriage width: 16 in. Units sold: 50,000 since 1984 Cost: $1,399

SIGMA SYSTEMS, INC. (FL)

☐ Model 132
300 lpm Type: Band Character set: 48; 64; 96 Print positions: 132 Buffer: Up to 8K bytes Units sold: 200 since 1980 Cost: $5,950

SILVER-REED AMERICA, INC.

☐ EB50 Colour Pengraph
14 cps Type: Ballpoint pen Character set: 96 Print positions: 40; 80; 160 Feed: Friction Carriage width: 8.7 in. Support equip: Software Units sold: 10,000 since 1984 Cost: $299

THE ULTIMATE CORP.

☐ Model 150 Line Printer
80; 100; 150; 200 lpm Type: Dot matrix Matrix: 9 X 7; 9 X 9 Character set: 96 Print positions: 132 Resolution: 60 X 72 dots per inch Introduced: 1984 Cost: $4,000

☐ Model 300 Line Printer
170; 240; 300 lpm Type: Dot matrix Matrix: 9 X 7; 9 X 9 Character set: 96 Print positions: 132 Resolution: 60 X 72 dots per inch Cost: $7,500

☐ Model 600 Line Printer
320; 465; 600 lpm Type: Dot matrix Matrix: 9 X 7; 9 X 9 Character set: 96 Print positions: 132 Resolution: 60 X 72 dots per inch Cost: $10,000

UNIMARK, INC.

☐ IER 310
160 cps Type: Dot matrix Character set: 96 Print positions: 92 Printing: bidirectional Feed: Tractor; Sheet Carriage width: 8.5 in. Introduced: 1985 Cost: $4,995

VERSATEC, INC.
(subsidiary of Xerox Corp.)

☐ V-80-311A
1,000 lpm Type: Dot matrix Matrix: 16 X 16 Character set: 96 Print positions: 132 Feed: Friction Carriage width: 11 in. Units sold: 10,000 since 1980 Cost: $8,950

SPECIAL-PURPOSE PRINTERS

CAPITOL CIRCUITS CORP.
Printer Products Division

☐ S100 Receipt Printer
65 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 27 Buffer: 27 bytes Units sold: 2,200 since 1983 Cost: $545

☐ S100T Receipt/Journal Printer
65 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 27 Buffer: 27 bytes Units sold: 1,500 since 1981 Cost: $745

☐ S200 24 Column Panel Printer
48 lpm Type: Dot matrix Matrix: 5 X 7 Character set: 96 Buffer: 176; (optional) 2K bytes Units sold: 750 since 1983 Cost: $375; (40 column) $395

☐ S400G Slip/Document Printer
150 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 40 Buffer: 2K bytes Units sold: 1,400 since 1983 Cost: $1,045

☐ S400L Label Printer
48 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 40 Buffer: 176; (optional) 2K bytes Units sold: 640 since 1983 Cost: $995

☐ S400T Receipt/Journal Printer
150 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 40 Printing: bidirectional Buffer: 176; (optional) 2K bytes Feed: Friction Carriage width: 3.5 in. Units sold: 2,400 since 1982 Cost: $886

☐ S600; S610 Slip/Document Printer
180 lpm Type: Chain Character set: 96 Print positions: 40 Printing: bidirectional Introduced: 1986 Cost: $760; $795

COMPUTER TERMINAL SYSTEMS, INC.

☐ Entertainment/Bet Ticket Printer
20 columns per second Type: Drum Character set: 48; 64 Feed: Friction Support equip: Cables; Software Units sold: 5,000 since 1976 Cost: $2,500-$4,000

☐ Label Printer
20 columns per second Type: Drum Character set: 48; 64 Print positions: 72 Buffer: 2K bytes Feed: Friction Support equip: Cables; Software Units sold: 650 since 1976 Cost: $2,500

☐ 104001 Boarding Pass Printer
20 columns per second Type: Drum Character set: 64 Print positions: 10 Units sold: 15,000 since 1973 Cost: $2,300-$3,600

☐ 1108-0020 Transportation Printer
20 columns per second Type: Drum Character set: 48; 64 Print positions: 72 Feed: Friction Support equip: Cables; Software Units sold: 1,200 since 1980 Cost: $2,500-$4,000

☐ 118003 Airline Ticket Printer
20 columns per second Type: Drum Character set: 48; 64 Print positions: 72 Feed: Tractor Units sold: 9,500 since 1974 Cost: $3,300-$4,500

☐ 601-0024 Document Printer
20 columns per second Type: Drum Character set: 48; 64 Print positions: 72 Feed: Friction Support equip: Cables; Software Units sold: 1,000 since 1979 Cost: $2,500-$4,000

☐ 708-0013 Form Printer
20 columns per second Type: Drum Character set: 48; 64 Print positions: 72 Feed: Friction Support equip: Cables; Software Units sold: 5,250 since 1970 Cost: $2,500-$4,000

COMPUTER TRANSCEIVER SYSTEMS, INC.

☐ EXECUPORT 2410 Label Printer
30,000 small labels per hour Type: Dot matrix Print positions: 80; 132; 160 Resolution: 200 X 200 dots per inch Buffer: 8K bytes Feed: Friction Carriage width: 8.5 in. Introduced: 1986 Cost: $5,000; (optional keyboard) $5,200

☐ EXECUPORT 2430 Label Printer
30,000 small labels per hour Type: Dot matrix Print positions: 80; 132; 160 Resolution: 200 X 200 dots per inch Buffer: 8K bytes Feed: Friction Carriage width: 8.5 in. Introduced: 1986 Cost: $5,000; (optional keyboard) $5,200

DATA SPECIALTIES, INC.

☐ Zebra Bar Code Label Printer
265 lpm Type: Dot matrix Matrix: 7 X 9 Resolution: 85 dots per inch Printing: bidirectional Buffer: 1.5K bytes Feed: Friction Carriage width: 3.25 in. Units sold: 2,000 since 1982 Cost: $3,650

☐ Zebra 130 Bar Code Label Printer
1.6 inches/sec. Type: Thermal transfer Resolution: 104 dots per inch Printing: bidirectional Feed: Friction Carriage width: 5.12 in. Introduced: 1986 Cost: $5,995

☐ Zebra 60 (Z60) Bar Code Label Printer
1 inches/sec. Type: Thermal Resolution: 104 dots per inch Printing: bidirectional Feed: Friction Carriage width: 2.36 in. Introduced: 1985 Cost: $2,450

DENNISON MANUFACTURING CO.

☐ Model 5107
2 inches/sec. Type: Thermal transfer Introduced: 1986 Cost: $12,900

☐ Model 5107W
2 inches/sec. Type: Thermal transfer Introduced: 1986

DRETEC, INC.

☐ Alphagraph 2600/4200 Bar Code Printer
10 lines/sec. Type: Dot matrix Matrix: 5 X 7 Resolution: 75 dots per inch Feed: Friction Carriage width: 4.5 in. Introduced: 1985 Cost: $200 and under

FARGO ELECTRONIC SERVICES, INC.

☐ MTL-600 Label Printer
2 inches/sec. Type: Thermal Introduced: 1986

☐ MTL-800 Label Printer
2 inches/sec. Type: Thermal Introduced: 1986

HECON CORP.

☐ Hard Copy Screen Printer
5-7 seconds/screen Matrix: 5 X 7 Character set: 96 Print positions: 80; 132 Buffer: 2K bytes Feed: Friction Carriage width: 11 in. Support equip: Cables Cost: $995

HEWLETT-PACKARD CO.

☐ HP 2933A Label Printer
200 cps; 650 labels per hour Matrix: 9 X 12 Character set: 64; 96; 128 Print positions: 68; 136; 223 Printing: bidirectional Buffer: 2K bytes Introduced: 1983

☐ HP 2934A Bar Code Printer
40; 67; 200 cps Type: Dot matrix Matrix: 9 X 12; 36 X 24 Character set: 64; 96; 128 Print positions: 68; 136; 223 Printing: bidirectional Introduced: 1983

IMTEC, INC.

☐ Imtec 3000 Bar Code/Label Printer
120 ft./min. Type: Dot matrix; Drum Printing: bidirectional Buffer: 1.5K bytes Feed: Tractor; Roll; Sheet Carriage width: 5 in. Support equip: Cables

INTERFACE DATA, INC.

☐ ID 460D
400 cps Type: Dot matrix Matrix: 7 X 9; 18 X 40 Character set: 96 Print positions: 132; 220 Printing: bidirectional Buffer: 256 bytes Feed: Tractor; Friction Carriage width: 15 in. Units sold: 100 since 1983 Cost: $2,995

INTERMEC CORP.

☐ S35 Bar Code Printer
40-50 labels per minute Type: Rotating Drum Buffer: 1.5K bytes Feed: Friction Introduced: 1982 Cost: $9,495

☐ 8220 Bar Code Printer
45-65 labels per minute Type: Rotating Drum Buffer: 1.5K bytes Feed: Friction Carriage width: 1 in. Introduced: 1980 Cost: $6,495

☐ 8413 Bar Code Printer
30-60 labels per minute Type: Rotating Drum Buffer: 1.5K bytes Feed: Friction Introduced: 1983 Cost: $8,495

☐ 8425R Pre-Ticketing Printer
50-60 labels per minute Type: Rotating Drum Buffer: 1.5K bytes Introduced: 1985 Cost: $9,995

☐ 8610 Square Matrix Label Printer
0.3 inches/sec. Type: Square Matrix Feed: Friction Carriage width: 6.5 in. Introduced: 1985 Cost: $2,595

☐ 8625 Square Matrix Label Printer
0.3 inches/sec. Type: Square Matrix Printing: bidirectional Buffer: 1K bytes Feed: Friction Carriage width: 6.5 in. Introduced: 1985 Cost: $3,295-$3,695

☐ 8636AT Square Matrix Label Printer
2 inches/sec. Type: Square Matrix Printing: bidirectional Buffer: 1K bytes Feed: Friction Carriage width: 4.5 in. Introduced: 1985 Cost: $5,695

ITHACA PERIPHERALS, INC.

☐ PcOS 100 POS Retail Printer
120 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 40; 132; 32 Resolution: 90 X 66 Printing: bidirectional Buffer: (optional) 2K bytes Feed: Tractor; Friction Carriage width: 16 in. Units sold: 500 since 1984 Cost: $1,995

☐ PcOS 200 POS Retail Printer
120 cps Type: Dot matrix Matrix: 5 X 7; 9 X 9 Character set: 96 Print positions: 40; 80 Resolution: 90 X 66; 70 X 70.5 Printing: bidirectional Buffer: 2K bytes Feed: Friction; Pin Carriage width: 9.5 in. Units sold: 5,000 since 1985 Cost: $995

☐ PcOS 51 POS Retail Printer
170 cps Type: Dot matrix Matrix: 5 X 7; 9 X 9 Character set: 96 Print positions: 40 Resolution: 144 X 144 Printing: bidirectional Buffer: 2K; (optional) 8K bytes Feed: Friction Carriage width: 3.25 in. Introduced: 1986 Cost: $699

☐ PcOS 52 POS Retail Printer
170 cps Type: Dot matrix Matrix: 5 X 7; 9 X 9 Character set: 96 Print positions: 40 Resolution: 144 X 144 Printing: bidirectional Buffer: 2K; (optional) 8K bytes Feed: Friction Carriage width: 3.25 in. Introduced: 1986 Cost: $749

☐ PcOS 53 POS Retail Printer
170 cps Type: Dot matrix Matrix: 5 X 7; 9 X 9 Character set: 96 Print positions: 40 Resolution: 144 X 144 Printing: bidirectional Buffer: 2K; (optional) 8K bytes Feed: Friction Carriage width: 3.25 in. Introduced: 1986 Cost: $799

LORD LABEL SYSTEMS, INC.

☐ EC-1100/EC-1500 Bar Code Printer
120 labels per minute Type: Dot matrix Resolution: 76 dots per inch Buffer: 32K bytes Feed: Friction Carriage width: 7.8 in. Support equip: Cables; Software; ROM Introduced: 1984 Cost: $3,750-$6,000

☐ LPA/80T Bar Code Printer
100 labels per minute Type: Dot matrix Resolution: 76 dots per inch Buffer: 32K bytes Feed: Friction Carriage width: 6-3/8 in. Units sold: 100 since 1985 Cost: $16,000-$19,800

MAGNETEC CORP.

☐ Model 9/60R Printer Mechanism
200 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 50; 60; 83 Resolution: 144 X 144 dots per inch Printing: bidirectional Buffer: 3.4K bytes Feed: Tractor; Friction Carriage width: 6-1/8 in. Units sold: 250 since 1984 Cost: $526

☐ Receipt Printer 9/40R
200 cps Type: Dot matrix Matrix: 9 X 9 Character set: 96 Print positions: 40; 32; 52 Resolution: 72 X 72; 144 X 144 dots per inch Printing: bidirectional Buffer: 3.4K bytes Feed: Friction Carriage width: 3-7/8 in. Support equip: Cables Units sold: 200 since 1985 Cost: $500

MANNESMANN TALLY

☐ MT 145
120 cps Type: Dot matrix Matrix: 9 X 7; 18 X 14 Character set: 96 Print positions: 132 Printing: bidirectional Buffer: 2K bytes Feed: Tractor Carriage width: 14.9 in. Support equip: Cables Introduced: 1985 Cost: $1,599

☐ MT 165
40; 165 cps Type: Dot matrix Matrix: 9 X 7; 18 X 14 Character set: 96 Print positions: 80 Printing: bidirectional Buffer: 2K bytes Feed: Tractor Carriage width: 10 in. Support equip: Cables Introduced: 1985 Cost: $968

MATTHEWS INTERNATIONAL CORP.
Symbol Systems Division

☐ BCP 1500 High Density Bar Code Printer
2 inches/sec. Type: Bar impact with dot matrix Matrix: 7 X 7; 7 X 9 Print positions: 100 Buffer: 125 bytes Feed: Friction Carriage width: 1 in. Cost: $2,400

☐ TMP 1800 Bar Code Printer
3.2 inches/sec. Type: Dot matrix Print positions: 25 Printing: bidirectional Buffer: 2K bytes Feed: Friction Carriage width: 1.5 in. Cost: $2,195

☐ TMP 1900 Bar Code Printer
3.2 inches/sec. Type: Dot matrix Matrix: 5 X 7 Print positions: 40 Printing: bidirectional Buffer: 2K bytes Feed: Friction Carriage width: 3.5 in. Cost: $3,095

MIL-PAC SYSTEMS CO.

☐ BARC Series 1000
150; 300 lpm Type: Dot matrix Introduced: 1984 Cost: $8,965

MONARCH MARKING
Retail Systems Division

☐ Model 2020 Bar Code Printer
2 inches/sec. Type: Thermal Buffer: 4K bytes Feed: Friction Carriage width: 2.4 in. Support equip: ROM Units sold: 200 since 1983 Cost: $5,200

☐ Model 2021 Bar Code Printer
2 inches/sec. Type: Thermal Matrix: 5 X 7; 7 X 12 Print positions: 14 Buffer: 4K bytes Feed: Friction Carriage width: 2.4 in. Support equip: ROM Units sold: 700 since 1984 Cost: $6,000; $3,000 (one time programming)

☐ Model 2030 Controlled Printing Systems
180 cps Type: Dot matrix Matrix: 5 X 7 Character set: 64 Printing: bidirectional Buffer: 4K bytes Feed: Friction Carriage width: 3.6 in. Units sold: 550 since 1985 Cost: $9,500

☐ Model 2040 Controlled Printing Systems
180 cps Type: Dot matrix Matrix: 5 X 7 Character set: 64 Printing: bidirectional Buffer: 3K bytes Feed: Friction Carriage width: 3.6 in. Units sold: 500 since 1981 Cost: $12,200

☐ Model 6041 Pathfinder
2 inches/sec. Type: Thermal Matrix: 5 X 7; 5 X 5 Character set: 48 Print positions: 16 Resolution: 203.2 dots per inch Buffer: 24K bytes Feed: Pin Carriage width: .875 in. Support equip: Cables Units sold: 2,000 since 1985 Cost: $2,000

☐ Model 6042 Pathfinder
2 inches/sec. Type: Thermal Matrix: 5 X 7; 5 X 5 Character set: 48 Print positions: 16; 14 Resolution: 203.2 dots per inch Buffer: 24K bytes Feed: Pin Carriage width: 1.2 in. Support equip: Cables Units sold: 8,000 since 1984 Cost: $2,000

☐ Model 6053 Pathfinder
2 inches/sec. Type: Thermal Matrix: 5 X 7 Character set: 48 Print positions: 16 Resolution: 152.4 dots per inch Feed: Pin Carriage width: 1.5 in. Support equip: Cables Units sold: 200 since 1985 Cost: $2,000

MPI (MICRO PERIPHERALS, INC.)

☐ BarMate 39/15
300 cps Type: Dot matrix Feed: Tractor; Friction Carriage width: 15 in. Introduced: 1985 Cost: $1,995

☐ BarMate 39/9
300 cps Type: Dot matrix Feed: Tractor; Friction Carriage width: 9.5 in. Introduced: 1985 Cost: $1,395

PRINTRONIX, INC.

☐ L600 Bar Code Label Printer
600; 800 lpm Type: Matrix line printer Character set: 96 Print positions: 132 Resolution: 120 X 72 matrix Feed: Tractor Carriage width: 16 in. Units sold: 200 since 1985 Cost: $7,500

SATO CORP.

☐ M-4500 Bar Code Printer
2 inches/sec. Printing: bidirectional Buffer: 2K bytes Feed: Friction Carriage width: 3.3 in. Introduced: 1984

SCANMARK DIVISION, ELECTROPRINT, INC.
(a Markem Co.)

☐ SK3000 Series
100 cps Type: Impact Feed: Friction capstan Carriage width: 2 in. Units sold: 1,500 since 1974 Cost: $8,450-$17,380

SCI SYSTEMS, INC.

☐ 1080/1180 Ticket Printer
1,100 cps Type: Dot matrix; Rotary Matrix: 5 X 7 Character set: 96 Print positions: 256 Resolution: 70 dots per inch Buffer: 1.5K bytes Feed: Friction Carriage width: 2 in. Units sold: 2,200 since 1980 Cost: $260-$1,160

☐ 1110/1100 Rotary Printer
2,200 cps Type: Dot matrix; Rotary Matrix: 5 X 7 Character set: 96 Print positions: 256 Resolution: 70 dots per inch Buffer: 3K bytes Feed: Friction Carriage width: 4 in. Units sold: 26,000 since 1977 Cost: $260-$1,160

SHOSHIN U.S.A., INC.

☐ CP-804GV Color Printer
2 inches per minute; 2 minutes per screen image Type: Dot matrix Resolution: 101 dots per inch Buffer: 1K bytes Feed: Friction; Roll Support equip: Cables Cost: $3,500

SYNTEST CORP.

☐ SP-309 Ticket Printer
120 cps Type: Dot matrix Matrix: 5 X 7 Character set: 64 Print positions: 40 Printing: bidirectional Buffer: 1K bytes Feed: Friction Carriage width: 5.91 in. Units sold: 300 since 1983 Cost: $790

☐ SP-314 Mobile Printer
160 cps Type: Dot matrix Matrix: 5 X 7 Character set: 96 Print positions: 40 Printing: bidirectional Buffer: 40 bytes Feed: Friction Carriage width: 4.25 in. Introduced: 1981 Cost: $605

UNIMARK, INC.

☐ IER 320 Bar Code Label/Ticket Printer
72 cps Type: Dot matrix Character set: 64 Printing: bidirectional Feed: Roll Carriage width: 3 in. Cost: $5,095

WALLACE COMPUTER SERVICES, INC.
Business Data Division

☐ W4600 Label Printer
600 lpm Type: Dot matrix Matrix: 9 X 7; 9 X 9 Character set: 96 Print positions: 132; 158; 175; 198; 224 Buffer: 1.9K bytes Feed: Tractor Carriage width: 50 in. Support equip: Software Units sold: 200 since 1981 Cost: $16,900



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4Z460

WEBER MARKING SYSTEMS

☐ 50 Series
150 lpm Type: Dot matrix Matrix: 7 X 9 Character set: 128 Print positions: 132 Resolution: 72 X 60 dots per inch Printing: bidirectional Buffer: 4K bytes Feed: Tractor Carriage width: 15 in. Support equip: Cables; Software Units sold: 255 since 1982 Cost: $13,000-$15,000

☐ 60 Series
300 lpm Type: Dot matrix Matrix: 7 X 9 Character set: 128 Print positions: 132 Resolution: 72 X 60 dots per inch Printing: bidirectional Buffer: 4K bytes Feed: Tractor Carriage width: 15 in. Support equip: Cables; Software Units sold: 106 since 1982 Cost: $19,000-$21,000

DISK DRIVES

DISKETTE

AMERICAN MICRO RESEARCH

☐ Model I.5i
5-1/4 inch PCDOS 3.0 compatible Capacity: 1 MB Transfer rate: 250 KB/sec Access time: 6 msec Introduced: 1984 Cost: $375

ANALOG AND DIGITAL PERIPHERALS, INC. (ADPI)

☐ Easi-Disk
5-1/4 inch Capacity: 0.5 MB; 1 MB; 2 MB Transfer rate: 25 KB/sec Introduced: 1983 Cost: $887-$1,095

☐ Easi-Disk IBM PC
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.3 MB Transfer rate: 25 KB/sec Support equip: ROM Introduced: 1984 Cost: $935-$1,095

☐ Easi-Disk Microfloppy
3-1/2 inch Capacity: 1 MB Transfer rate: 25 KB/sec Introduced: 1984 Cost: $935-$1,095

CHINON AMERICA, INC.
Information Equipment Division

☐ F-353BII
3-1/2 inch Capacity: 0.32 MB Introduced: 1986

☐ F-353CAE; F-353C
3-1/2 inch Capacity: 0.32 MB Introduced: 1986

☐ F-354C; F-354CAE
3-1/2 inch Capacity: 0.64 MB Introduced: 1986

☐ *F-354E; F-353E*
3-1/2 inch Capacity: 0.32 MB-0.64 MB Introduced: 1986

☐ F-354L
3-1/2 inch Capacity: 0.64 MB Introduced: 1986

☐ F-502LII; F-502II
5-1/4 inch Capacity: 0.32 MB Introduced: 1986

☐ F-506
5-1/4 inch Capacity: 0.32 MB-1.15 MB Introduced: 1986

CONTROL DATA CORP.

☐ Model 9428
5-1/4 inch Capacity: (unformatted) 0.25 MB-0.5 MB Spindle(s): 1 Transfer rate: 125 to 250 KB/sec Access time: 80 msec Units sold: 50,000 since 1983 Cost: $95 (qty. 5,000)

☐ Model 9429
5-1/4 inch Capacity: (unformatted) 0.5 MB-1 MB Spindle(s): 1 Transfer rate: 125 to 250 KB/sec Access time: 95 msec Units sold: 100,000 since 1983 Cost: $115 (qty. 5,000)

DATA TECHNOLOGY CORP.

☐ TeamMate 1103
5-1/4 inch PCDOS 3.0 compatible Capacity: 2.8 MB Spindle(s): 1 Transfer rate: 62.5 KB/sec Access time: 160 msec Support equip: Cables; ROM Units sold: 1,000 since 1984 Cost: $595

☐ TeamMate 1203
5-1/4 inch PCDOS 3.0 compatible Capacity: 2.78 MB Spindle(s): 1 Transfer rate: 62.5 KB/sec Access time: 160 msec Support equip: Cables; Software; ROM Units sold: 1,000 since 1984 Cost: $895

☐ TeamMate 1206
5-1/4 inch PCDOS 3.0 compatible Capacity: 5.56 MB Spindle(s): 2 Transfer rate: 62.5 KB/sec Access time: 160 msec Support equip: Cables; Software; ROM Units sold: 1,000 since 1984 Cost: $995

EASTMAN KODAK CO.
Spin Physics Division

☐ Kodak 3.3 Drive
5-1/4 inch PCDOS 3.0 compatible Capacity: 2.78 MB Spindle(s): 1 Transfer rate: 62.5 KB/sec Access time: 160 msec Introduced: 1986 Cost: $285

EPSON AMERICA, INC.

☐ SD-300 Series
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.25 MB-0.5 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 220 msec Introduced: 1983 Cost: $125

☐ SD-500 Series
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.25 MB-1.6 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 96 msec Introduced: 1983 Cost: $125

☐ SD-580 Series
5-1/4 inch PCDOS 3.0 compatible Capacity: 1 MB; 1.6 MB Spindle(s): 1 Transfer rate: 31.25; 62.5 KB/sec Access time: 93 msec Introduced: 1985 Cost: $150

☐ SMD-100 Series
3-1/2 inch PCDOS 3.0 compatible Capacity: 0.5 MB-1 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 96 msec Introduced: 1983 Cost: $125

☐ SMD-200 Series
3-1/2 inch PCDOS 3.0 compatible Capacity: 1 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 96 msec Introduced: 1985 Cost: $150

FALCON TECHNOLOGY

☐ jr extender
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.35 MB Transfer rate: 625 KB/sec Access time: 45 msec Support equip: Cables; Software Introduced: 1984 Cost: $595

FUJITSU AMERICA, INC.
Storage & Peripheral Products Division

☐ M2531A
3-1/2 inch PCDOS 3.0 compatible Capacity: 0.36 MB Spindle(s): 1 Transfer rate: 250 KB/sec Access time: 93 msec Introduced: 1986 Cost: $96 (qty. 100)

☐ M2532A
3-1/2 inch PCDOS 3.0 compatible Capacity: 0.655 MB Spindle(s): 1 Transfer rate: 250 KB/sec Access time: 94 msec Introduced: 1986 Cost: $112

☐ M2551A
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.36 MB Spindle(s): 1 Transfer rate: 250 KB/sec Access time: 93 msec Introduced: 1986 Cost: $83

☐ M2552A
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.655 MB Spindle(s): 1 Transfer rate: 250 KB/sec Access time: 94 msec Introduced: 1986 Cost: $121

☐ M2553A
5-1/4 inch PCDOS 3.0 compatible Capacity: 1.2 MB Spindle(s): 1 Transfer rate: 500 KB/sec Access time: 91 msec Introduced: 1986 Cost: $125

☐ M2554A
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.65 MB; 1.2 MB Spindle(s): 1 Transfer rate: 250/500 KB/sec Access time: 94 msec Introduced: 1986 Cost: $132

GREATWEST TECHNOLOGY, LTD.
SYSDYNE Products Division

☐ FD 320AT
5-1/4 inch Capacity: 0.31 MB Transfer rate: 250 KB/sec

GRECO SYSTEMS, INC.

☐ CNC Minifile
5-1/4 inch Capacity: 2.7 MB Units sold: 4,200 since 1977 Cost: $1,990

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ IBM PC jr Diskette
5-1/4 inch Capacity: 0.36 MB Cost: $480

☐ Model 1503810
5-1/4 inch Capacity: 0.32 MB Transfer rate: 20.5 KB/sec Introduced: 1982 Cost: $650

☐ Model 4865
3-1/2 inch Capacity: 0.70 MB Transfer rate: 31.25 KB/sec Support equip: Cables Introduced: 1986 Cost: $395

INSTOR CORP.

☐ I-50
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.35 MB-1.2 MB Spindle(s): 1 Access time: 20 msec Support equip: Cables Introduced: 1984 Cost: $1,995

☐ I-85
8 inch PCDOS 3.0 compatible Capacity: 0.6 MB-2.5 MB Spindle(s): 2 Access time: 91 msec Support equip: Software; Cables Introduced: 1983 Cost: $2,995-$3,995

☐ Instor-SMDR
8 inch PCDOS 3.0 compatible Capacity: 0.6 MB-2.5 MB Spindle(s): 2 Access time: 91 msec Support equip: Cables Introduced: 1983 Cost: $2,995-$3,995

I2 INTERFACE, INC.

☐ DSA445
5-1/4 inch Capacity: 0.35 MB Spindle(s): 1 Units sold: 1,500 since 1983 Cost: $545

☐ Internal Double-Sided
5-1/4 inch Capacity: 0.36 MB Spindle(s): 1 Access time: 6 msec Introduced: 1979 Cost: $295

☐ Internal Single-Sided
5-1/4 inch Capacity: 0.16 MB Spindle(s): 1 Access time: 6 msec Units sold: 100,000 since 1979 Cost: $195

☐ ThinLine Double-Sided
5-1/4 inch Capacity: 0.32 MB Introduced: 1980 Cost: $350

☐ TM-101-4
5-1/4 inch Capacity: 0.72 MB Spindle(s): 1 Access time: 90 msec Units sold: 300,000 since 1979 Cost: $375

JVC INFORMATION PRODUCTS CO. OF AMERICA
(division of U.S. JVC Corp.)

☐ MDP-100
5-1/4 inch Capacity: 1 MB Transfer rate: 31.25 KB/sec

☐ MDP-100M
5-1/4 inch Capacity: 1 MB Transfer rate: 31.25 KB/sec

☐ MDP-200
5-1/4 inch Capacity: 0.5 MB Transfer rate: 31.25 KB/sec

☐ MDP-200M
5-1/4 inch Capacity: 0.25 MB Transfer rate: 31.25 KB/sec

☐ MDP-200MDW
5-1/4 inch Capacity: 0.5 MB Transfer rate: 31.25 KB/sec

☐ MDP-200MW
5-1/4 inch Capacity: 0.5 MB Transfer rate: 31.25 KB/sec

☐ MDP-30
3-1/2 inch Capacity: 0.5 MB Transfer rate: 31.25 KB/sec

☐ MDP-40
3-1/2 inch Capacity: 1 MB Transfer rate: 31.25 KB/sec

☐ MFD-3103Z
3-1/2 inch Capacity: 1 MB Transfer rate: 31.25 KB/sec

☐ MFD-3503Z
3-1/2 inch Capacity: 0.5 MB Transfer rate: 31.25 KB/sec

☐ MFD-5162Z
5-1/4 inch Capacity: 1 MB-1.6 MB Transfer rate: 31.25 - 62.5 KB/sec

LEGACY TECHNOLOGIES, LTD.

☐ *Legacy II*
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.35 MB Spindle(s): 1 Transfer rate: 250 KB/sec Support equip: Cables; Software Introduced: 1984 Cost: $495

MECA

☐ Omni-Disk (5-1/4 inch)
5-1/4 inch Capacity: 0.78 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Units sold: 200 since 1984 Cost: $849

MITSUBA CORP.

☐ IT80
5-1/4 inch Capacity: 0.5 MB Introduced: 1983 Cost: $159

MITSUBISHI ELECTRONICS AMERICA, INC.

☐ MF501A
5-1/4 inch PCDOS 3.0 compatible Capacity: (unformatted) 0.5 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 103 msec Introduced: 1985 Cost: $90

☐ MF504A
5-1/4 inch PCDOS 3.0 compatible Capacity: (unformatted) 1.6 MB Spindle(s): 1 Transfer rate: 62.5 KB/sec Access time: 94 msec Introduced: 1985 Cost: $140

NEC INFORMATION SYSTEMS, INC.

☐ FD1053
5-1/4 inch Capacity: 1 MB Spindle(s): 1 Transfer rate: 250 KB/sec Access time: 6 msec Introduced: 1984

☐ FD1155C
5-1/4 inch PCDOS 3.0 compatible Capacity: 1.6 MB Spindle(s): 1 Transfer rate: 62.5 to 250 KB/sec Access time: 3 msec Introduced: 1984

NISSEI SANGYO AMERICA, LTD. (NSA)

☐ FB-350 Series
3-1/2 inch Capacity: 0.25 MB-1 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 94 msec Introduced: 1985 Cost: $105-$165 (qty. 100)

☐ FB-500 Series
5-1/4 inch Capacity: 0.25 MB; 0.5 MB; 1 MB; 1.6 MB Spindle(s): 1 Transfer rate: 31.25-62.50 KB/sec Access time: 93 msec Introduced: 1983 Cost: $115-$180 (qty. 100)

PACIFIC MICRO SYSTEMS

☐ Pelican 3.3
5-1/4 inch PCDOS 3.0 compatible Capacity: 2.78 MB Spindle(s): 1 Transfer rate: 500 KB/sec Access time: 160 msec Support equip: Cables Introduced: 1985 Cost: $795

PERSONAL MICRO COMPUTERS, INC.
(division of Recortec, Inc.)

☐ FDD-421
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.5 MB Spindle(s): 1 Transfer rate: 31.2 KB/sec Access time: 90 msec Introduced: 1983 Cost: $295

☐ FDD-422
5-1/4 inch PCDOS 3.0 compatible Capacity: 1 MB Spindle(s): 2 Transfer rate: 31.2 KB/sec Access time: 90 msec Introduced: 1983 Cost: $395

RICOH SYSTEMS, INC.

☐ RF5050
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.36 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 95 msec Units sold: 2,000 since 1984

SUMITRONICS, INC.
(subsidiary of Sumitomo Corp.)

☐ DF-0500
5-1/4 inch Capacity: 4.8 MB Transfer rate: 375 KB/sec Access time: 110 msec

TEAC CORP. OF AMERICA (TCA)

☐ FD-55A
5-1/4 inch Capacity: 0.25 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 93 msec Units sold: 700,000 since 1982 Cost: $89

TECO AMERICAN, INC.
(subsidiary of Teco Electric & Machinery Co., Ltd.)

☐ VF5220
5-1/4 inch Capacity: 0.5 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 122 msec

TOSHIBA AMERICA, INC.
Information Systems Division

☐ ND04D
5-1/4 inch Capacity: 0.5 MB Spindle(s): 1 Transfer rate: 250 KB/sec Access time: 80 msec Introduced: 1984 Cost: $385

TTP ENTERPRISES, INC.

☐ FD-512
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.5 MB Spindle(s): 2 Transfer rate: 72 KB/sec Access time: 10 msec Support equip: Cables Introduced: 1984 Cost: $825

UNICORN TECHNOLOGIES

☐ UT 100 XFS002
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.36 MB Spindle(s): 2 Transfer rate: 500 KB/sec Access time: 6 msec Support equip: Cables Units sold: 200 since 1984 Cost: $212

☐ UT 100 XFS003
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.72 MB Spindle(s): 2 Transfer rate: 500 KB/sec Access time: 6 msec Support equip: Cables Units sold: 200 since 1984 Cost: $345

WELTEC DIGITAL, INC.

☐ M16A
5-1/4 inch PCDOS 3.0 compatible Capacity: 1.2 MB Spindle(s): 1 Transfer rate: 31.35-62.5 KB/sec Access time: 80 msec Units sold: 10,000 since 1985 Cost: $105

☐ M48D
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.5 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 80 msec Units sold: 15,000 since 1984 Cost: $80

WORLD DISK DRIVES

☐ FDD 100-5
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.25 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 275 msec Units sold: 600,000 since 1976 Cost: $135

☐ FDD 111-5
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.25 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 80 msec Units sold: 25,000 since 1982 Cost: $95

☐ FDD 112-5
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.25 MB Spindle(s): 1 Transfer rate: 250 KB/sec Access time: 95 msec Units sold: 18,000 since 1983 Cost: $90

☐ FDD 121-5
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.5 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 94 msec Units sold: 10,000 since 1982 Cost: $140

☐ FDD 211-5
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.5 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 80 msec Units sold: 90,000 since 1982 Cost: $95

☐ FDD 212-5
5-1/4 inch PCDOS 3.0 compatible Capacity: 0.5 MB Spindle(s): 1 Transfer rate: 250 KB/sec Access time: 95 msec Units sold: 2,000 since 1983 Cost: $120

☐ FDD 221-5
5-1/4 inch PCDOS 3.0 compatible Capacity: 1 MB Spindle(s): 1 Transfer rate: 31.25 KB/sec Access time: 94 msec Units sold: 50,000 since 1982 Cost: $180

WINCHESTER

ADVANCED DIGITAL CORP.

☐ Hard Disk (20 MB)
5-1/4 inch Capacity: 20 MB Units sold: 500 since 1983 Cost: $2,000

ALLOY COMPUTER PRODUCTS, INC.
SEE AD ON PAGE 129

☐ O-QICSTOR
5-1/4 inch PCDOS 3.0 compatible Capacity: 30 MB-110 MB Transfer rate: 625 KB/sec Access time: 28-45 msec Backup: Cartridge tape Support equip: Cables; Software Introduced: 1986 Cost: $4,595-$9,995

☐ O-STOR
5-1/4 inch PCDOS 3.0 compatible Capacity: 30 MB-67 MB Transfer rate: 625 KB/sec Access time: 28-45 msec Backup: Cartridge tape Support equip: Cables; Software Introduced: 1986 Cost: $4,295-$6,995

☐ PC-QICSTOR
5-1/4 inch PCDOS 3.0 compatible Capacity: 30 MB-220 MB Transfer rate: 625 KB/sec Access time: 28-45 msec Backup: Cartridge tape Support equip: Cables; Software Introduced: 1984 Cost: $4,595-$15,995

☐ PC-STOR
5-1/4 inch PCDOS 3.0 compatible Capacity: 30 MB-134 MB Transfer rate: 625 KB/sec Access time: 28-45 msec Backup: Cartridge tape, 17.7 MB Support equip: Cables; Software Introduced: 1984 Cost: $4,295-$9,995

☐ QICSTOR-PLUS
5-1/4 inch PCDOS 3.0 compatible Capacity: 30 MB-110 MB Transfer rate: 625 KB/sec Access time: 28-45 msec Backup: Cartridge tape Support equip: Cables; Software Introduced: 1984 Cost: $5,595-$10,995

☐ SD-Series
5-1/4 inch PCDOS 3.0 compatible Capacity: 67 MB-150 MB Transfer rate: 625 KB/sec Access time: 28-30 msec Support equip: Cables; Software Introduced: 1984 Cost: $4,995-$6,995

☐ SL-60
5-1/4 inch PCDOS 3.0 compatible Capacity: 20 MB; 41 MB Transfer rate: 625 KB/sec Access time: 35-80 msec Backup: Streaming cartridge tape, 60 MB Support equip: Cables; Software Introduced: 1986 Cost: $2,995-$3,995

☐ 6300-QICSTOR
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB-110 MB **Transfer rate:** 625 KB/sec **Access time:** 28-30 msec **Backup:** Cartridge tape **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $4,595-$9,995

☐ 6300-STOR
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB-67 MB **Transfer rate:** 625 KB/sec **Access time:** 28-45 msec **Backup:** Cartridge tape, 17.7 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $4,295-$6,995

ALPHA DATA, INC.

☐ Atlas
14 inch PCDOS 3.0 compatible **Capacity:** 128 MB; 160 MB; 520 MB **Spindle(s):** 1 **Transfer rate:** 1,250-1,800 KB/sec **Access time:** 18 msec **Support equip:** Cables; Software **Introduced:** 1983 **Cost:** $5,200-$8,700

ALPHA OMEGA COMPUTER PRODUCTS, INC.

☐ TURBO 10
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10.5 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 80 msec **Introduced:** 1984 **Cost:** $495

☐ TURBO 20
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 22.5 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 80 msec **Support equip:** Cables; Software **Introduced:** 1985 **Cost:** $599

☐ TURBO 30
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 33.2 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 80 msec **Support equip:** Cables; Software **Introduced:** 1985 **Cost:** $749

ALPS ELECTRIC (USA), INC.
(subsidiary of Alps Electric Co., Ltd.)
SEE AD ON PAGE 169

☐ DRMD Series
5-1/4 inch **Capacity:** 10 MB-20 MB

AMCODYNE, INC.

☐ PhD
8 inch **Capacity:** 82 MB **Backup:** Removable cartridge, 20.5 MB **Introduced:** 1986 **Cost:** $6,995

AMERICAN MITAC CORP.

☐ ADK 200I
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables **Introduced:** 1981 **Cost:** $500

☐ ST4026
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Transfer rate:** 625 KB/sec **Access time:** 40 msec **Support equip:** Cables **Introduced:** 1984 **Cost:** $560

☐ ST4038
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Transfer rate:** 625 KB/sec **Access time:** 40 msec **Support equip:** Cables **Introduced:** 1984 **Cost:** $660

☐ ST4051
5-1/4 inch **Capacity:** 40 MB **Introduced:** 1986 **Cost:** $750

APPARAT, INC.

☐ Model 7670
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 21 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables **Units sold:** 600 since 1983 **Cost:** $1,289

☐ Model 7674
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 33 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables **Units sold:** 300 since 1983 **Cost:** $1,759

☐ Model 7680
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 21 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** ROM **Units sold:** 300 since 1984 **Cost:** $709

☐ Model 7681
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 33 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** ROM **Units sold:** 200 since 1984 **Cost:** $1,189

☐ Model 7685
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 21 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables **Units sold:** 50 since 1985 **Cost:** $679

☐ Model 7686
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 33 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables **Units sold:** 20 since 1985 **Cost:** $1,159

☐ Model 7691
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 21 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables **Units sold:** 800 since 1984 **Cost:** $899

☐ Model 7692
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 33 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables **Units sold:** 600 since 1984 **Cost:** $1,499

ASHER ENGINEERING CORP.

☐ MS726-S
5-1/4 inch **Capacity:** 22 MB **Transfer rate:** 625 KB/sec **Access time:** 40 msec

☐ MS740-S
5-1/4 inch **Capacity:** 33 MB **Transfer rate:** 625 KB/sec **Access time:** 40 msec

☐ MS820-S
5-1/4 inch **Capacity:** 16 MB **Transfer rate:** 625 KB/sec **Access time:** 40 msec

☐ MS840-S
5-1/4 inch **Capacity:** 33 MB **Transfer rate:** 625 KB/sec **Access time:** 40 msec

☐ MS860-S
5-1/4 inch **Capacity:** 48 MB **Transfer rate:** 625 KB/sec **Access time:** 40 msec

AST RESEARCH, INC.
SEE AD ON PAGES 161/172/173/174/175

☐ Model 4074
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 74 MB **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Backup:** Cartridge streaming tape, 60 MB **Support equip:** Cables; Software **Units sold:** 1,000 since 1985 **Cost:** $7,499

ATASI CORP.

☐ AT SpeedStor Kit
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (unformatted 51.3 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 33 msec **Support equip:** Cables; Software **Introduced:** 1985 **Cost:** $2,195

☐ XT SpeedStor Kit
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 51.3 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 33 msec **Support equip:** Cables; Software **Cost:** $2,195-$2,595

BELL TECHNOLOGIES

☐ B86
Reviewed May 1986 p. 94.
5-1/4 inch **Capacity:** 86 MB **Access time:** 28 msec **Introduced:** 1986 **Cost:** $2,495

BI-TECH ENTERPRISES, INC.

☐ Series 200900
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 40 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 60 msec **Backup:** Removable cartridge, 10 MB **Support equip:** Software **Units sold:** 2,000 since 1983 **Cost:** $3,100-$4,600

☐ Winchester/Tape Series
5-1/4 inch **Capacity:** 30 MB; 40 MB **Backup:** Streaming tape, 60 MB **Introduced:** 1986 **Cost:** $3,495-$3,995

BULL PERIPHERAL CORP.

☐ D530
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 31 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software; Interface card **Units sold:** 1,400 since 1983 **Cost:** $1,480 (qty. 100)

☐ D550
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 51 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software; Interface card **Units sold:** 2,200 since 1983 **Cost:** $1,700 (qty. 100)

☐ D570
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 72 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software; Interface card **Units sold:** 3,500 since 1983 **Cost:** $2,050 (qty. 100)

☐ D585
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 85 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software; Interface card **Units sold:** 200 since 1984 **Cost:** $2,195

CAMBRIAN CONSULTANTS, INC.

☐ DriveIn
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Transfer rate:** 625 KB/sec **Access time:** 45 msec **Introduced:** 1986

CHASE TECHNOLOGIES, INC.
High Performance Product Group

☐ CTI-130; CTI-40; CTI-70; CTI-260
5-1/4 inch **Capacity:** 44 MB-266 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 24 msec **Backup:** Tape, 60 MB **Support equip:** Software **Introduced:** 1985 **Cost:** $2,395-$12,995

CLASSIC TECHNOLOGY, INC.

☐ CD-55
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 55 MB **Spindle(s):** 1 **Transfer rate:** 512 KB/sec **Access time:** 40 msec **Support equip:** Cables; Software **Units sold:** 500 since 1985 **Cost:** $1,995

☐ CD-85
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 85 MB **Spindle(s):** 1 **Transfer rate:** 512 KB/sec **Access time:** 29 msec **Support equip:** Cables; Software **Units sold:** 400 since 1985 **Cost:** $2,795

CMC INTERNATIONAL, INC.

☐ TARGA
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB-62 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 40-72 msec **Backup:** Cartridge tape, 59 MB; Removable hard disk, 5 MB **Support equip:** Software **Units sold:** 1,000 since 1981

CMS

☐ CMS Drive Plus
3-1/2 inch **Capacity:** 20 MB **Access time:** 85 msec **Introduced:** 1986

COGITO SYSTEMS CORP.

☐ CG912
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 12.76 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Units sold:** 50,000 since 1984

☐ PT925
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 75 msec

MASS STORAGE.....1987

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LIVERMORE, CALIFORNIA

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NMS controllers and complete memory systems provide performance that is *faster than conventional disk systems* while you *save up to ½* the cost per megabyte.

Take advantage of *16 millisecond access times* and 2.4 megabyte/second data rates! If you do, you may be able to transfer 5 megabyte files in as little as 26 seconds! NMS memory systems and multifunction controllers give the greatest flexability in disk system configuration, capacity range, cpu, network and operating system compatability.

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CIRCLE NO. 287 ON READERS SERVICE CARD

COLORADO MEMORY SYSTEMS, INC.

☐ Q60W20
5-1/4 inch **Capacity:** 20 MB **Backup:** Cartridge tape, 60 MB **Introduced:** 1985 **Cost:** $3,495

☐ Q60W20AT
5-1/4 inch **Capacity:** 20 MB **Backup:** Cartridge tape, 60 MB **Introduced:** 1985 **Cost:** $3,195

COMPUTER PRODUCTS INTERNATIONAL, INC.

☐ Excelsior
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 368 MB **Spindle(s):** 4 **Transfer rate:** 937.50 KB/sec **Access time:** 28 msec **Backup:** Removable hard disk, 12 MB **Support equip:** Software; ROM **Units sold:** 6,150 since 1983 **Cost:** $1,995-$12,995

CONQUEST COMPUTER INDUSTRIES

☐ HD/Tape Series
5-1/4 inch **Capacity:** 10-40 MB **Backup:** Cartridge tape, 10 MB **Support equip:** Cables; Software

CONTROL DATA CORP.

☐ Model 9415 Wren
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 21 MB; 36 MB **Spindle(s):** 1 **Transfer rate:** 1,200 KB/sec **Access time:** 45 msec **Support equip:** Cables; Software **Units sold:** 30,000 since 1983 **Cost:** $1,150; $1,450 (qty. 500)

☐ Model 9415-80 Wren
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 86 MB **Spindle(s):** 1 **Transfer rate:** 1,228.8 KB/sec **Access time:** 35 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $1,845 (qty. 1,000)

CORE INTERNATIONAL

☐ ATplus40
Reviewed May 1986 p. 94.
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 40 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 26 msec **Support equip:** Cables; Software; ROM **Units sold:** 8,000 since 1984 **Cost:** $2,595

☐ AT56
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 56 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 26 msec **Support equip:** Cables; Software; ROM **Units sold:** 8,000 since 1984 **Cost:** $2,595

☐ AT72
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 72 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 26 msec **Support equip:** Cables; Software; ROM **Units sold:** 8,000 since 1984 **Cost:** $2,595

☐ 5115-1 ALPHA SERIES
8 inch PCDOS 3.0 compatible **Capacity:** 10.6 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 60 msec **Support equip:** Software **Units sold:** 35 since 1982 **Cost:** $6,995

☐ 5115-2 ALPHA SERIES
8 inch PCDOS 3.0 compatible **Capacity:** 21.2 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 60 msec **Support equip:** Software **Units sold:** 22 since 1982 **Cost:** $11,290

☐ 5116-1 ALPHA SERIES
8 inch PCDOS 3.0 compatible **Capacity:** 42.4 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 60 msec **Support equip:** Software **Units sold:** 104 since 1981 **Cost:** $8,695

☐ 5116-2 ALPHA SERIES
8 inch PCDOS 3.0 compatible **Capacity:** 84.8 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 60 msec **Support equip:** Software **Units sold:** 50 since 1981 **Cost:** $14,690

☐ 5117 ALPHA SERIES
8 inch PCDOS 3.0 compatible **Capacity:** 42.4 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 60 msec **Backup:** Removable winchester, 10.6 MB **Support equip:** Software **Units sold:** 70 since 1982 **Cost:** $12,990

CORVUS SYSTEMS, INC.

☐ Model 11
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 11.1 MB **Spindle(s):** 1 **Transfer rate:** 687.5 KB/sec **Access time:** 68 msec **Backup:** Corvus MIRROR, 73 MB; Corvus Bank, 100 MB-200 MB **Support equip:** Software **Introduced:** 1984 **Cost:** $1,995

☐ Model 20
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20.9 MB **Spindle(s):** 1 **Transfer rate:** 687.5 KB/sec **Access time:** 68 msec **Backup:** Corvus MIRROR, 73 MB **Support equip:** Software **Introduced:** 1984 **Cost:** $2,795

☐ OmniDrive
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 5.5 MB **Spindle(s):** 1 **Transfer rate:** 687.5 KB/sec **Access time:** 68 msec **Backup:** Corvus MIRROR, 73 MB; Corvus Bank, 100 MB-200 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $1,495

DATA TECHNOLOGY CORP.

☐ TeamMate 1110
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables; Software; ROM **Units sold:** 2,000 since 1984 **Cost:** $895

☐ TeamMate 1120
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables; Software; ROM **Units sold:** 5,000 since 1984 **Cost:** $995

☐ TeamMate 1132/H
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 32 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables; Software; ROM **Units sold:** 1,000 since 1984 **Cost:** $1,295

☐ TeamMate 1213
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Diskette 3.3 MB **Support equip:** Cables; ROM **Units sold:** 1,000 since 1984 **Cost:** $1,595

☐ TeamMate 1220
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables; Software; ROM **Units sold:** 1,000 since 1984 **Cost:** $1,095

☐ TeamMate 1223
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 17 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Diskette, 3.3 MB **Support equip:** Cables; ROM **Units sold:** 1,000 since 1985 **Cost:** $1,795

☐ 1160AT
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 60 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Software **Units sold:** 250 since 1985 **Cost:** $1,995

☐ 1400/RIO
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 135 msec **Backup:** Cartridge, 10 MB **Support equip:** Cables **Units sold:** 500 since 1985 **Cost:** $1,995

☐ 1400/T60
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 60 MB **Spindle(s):** 1 **Transfer rate:** 90 KB/sec **Access time:** 33 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Software **Introduced:** 1986 **Cost:** $1,595

☐ 1420/T20
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Cassette tape, 25 MB **Support equip:** Software **Introduced:** 1986 **Cost:** $2,395

DATA ZONE, INC.

☐ HANG 10/20/30
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 10 MB-30 MB **Transfer rate:** 625 KB/sec **Access time:** 40-65 msec **Support equip:** Cables; Software **Units sold:** 2,000 since 1985 **Cost:** $699-$1,399

☐ SLOT DRIVE 10/20/30
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 10 MB-30 MB **Transfer rate:** 625 KB/sec **Access time:** 40-65 msec **Support equip:** Cables; Software **Units sold:** 300 since 1985 **Cost:** $899-$1,499

DATREX, INC.

☐ Super XT
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (removable) 10 MB-25 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 55 msec **Backup:** Disk cartridge, 5 MB **Support equip:** Cables; Software; Adapter card **Units sold:** 1,200 since 1984 **Cost:** $1,995-$2,495

DIGITAL ELECTRONIC SYSTEMS

☐ IPC10-C1
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Software **Units sold:** 100 since 1984 **Cost:** $1,195

☐ IPC31-C1
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 31 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Software **Units sold:** 50 since 1984 **Cost:** $2,195

☐ IRPC10-C1
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (removable) 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 90 msec **Support equip:** Software **Units sold:** 100 since 1984 **Cost:** $2,295

☐ RPC10-C1
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 90 msec **Support equip:** Software **Units sold:** 100 since 1984 **Cost:** $2,495

☐ RPC5-C1
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 5 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 90 msec **Support equip:** Software **Units sold:** 100 since 1984 **Cost:** $2,010

☐ SD-10
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Software **Units sold:** 10 since 1984 **Cost:** $940

☐ SD-30
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Software **Units sold:** 10 since 1984 **Cost:** $1,650

☐ SDR-10
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 90 msec **Support equip:** Software **Units sold:** 50 since 1984 **Cost:** $2,070

☐ SDR-5
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 5 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 90 msec **Support equip:** Software **Units sold:** 50 since 1984 **Cost:** $1,410

☐ WPC10-C1
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Software **Units sold:** 500 since 1984 **Cost:** $2,295

☐ WPC119-C8
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 119 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Software **Units sold:** 50 since 1984 **Cost:** $8,310

☐ WPC31-C1
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 31 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Software **Introduced:** 1984 **Cost:** $1,195

☐ WPC55-C8
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 55 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Software **Introduced:** 1984 **Cost:** $1,395

☐ **WPC87-C8**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 87 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Software **Units sold:** 50 since 1984 **Cost:** $5,820

☐ **W119**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 119 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Software **Introduced:** 1984 **Cost:** $7,650

☐ **W55**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 55 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Software **Introduced:** 1984 **Cost:** $4,490

☐ **W87**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 87 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Software **Introduced:** 1984 **Cost:** $5,160

DISC TECH ONE, INC.

☐ **Model 3306**
14 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 83.95 MB **Spindle(s):** 1 **Transfer rate:** 996 KB/sec **Access time:** 38 msec **Units sold:** 8,000 since 1977 **Cost:** $3,000

☐ **Model 4160**
14 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 165.9 MB **Spindle(s):** 1 **Transfer rate:** 1,209 KB/sec **Access time:** 38 msec **Units sold:** 200 since 1983 **Cost:** $4,000

☐ **Model 512**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 13.33 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Units sold:** 10,000 since 1983 **Cost:** $260 (qty. 1,000)

☐ **Model 525**
5-1/4 inch **Capacity:** 25.52 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 65 msec **Units sold:** 10,000 since 1983 **Cost:** $595 (qty. 1,000)

☐ **Plato 5000 Series**
5-1/4 inch **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 38 msec **Introduced:** 1985 **Cost:** $825-$3,000

☐ **Winchester 5000 Series**
5-1/4 inch **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 38 msec **Units sold:** 5,000 since 1982 **Cost:** $260-$450

EMERALD SYSTEMS CORP.

☐ **DOS 118-3002**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 118 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Units sold:** 1,000 since 1984 **Cost:** $8,270

☐ **DOS 118-4000**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 118 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 25 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Units sold:** 3,000 since 1984 **Cost:** $12,070

☐ **DOS 144-3002**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 144 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Units sold:** 600 since 1984 **Cost:** $7,190

☐ **DOS 144-5000**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 144 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Support equip:** Cables; Software **Units sold:** 300 since 1984 **Cost:** $9,060

☐ **DOS 236-3002**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 236 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 25 msec **Support equip:** Cables; Software **Units sold:** 300 since 1984 **Cost:** $16,310

☐ **DOS 236-5000**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 236 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 25 msec **Support equip:** Cables; Software **Units sold:** 200 since 1984 **Cost:** $18,180

☐ **DOS 30-3002**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 35 msec **Support equip:** Cables; Software **Units sold:** 2,000 since 1984 **Cost:** $2,350

☐ **DOS 30-4000**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 35 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Units sold:** 2,000 since 1984 **Cost:** $6,540

☐ **DOS 40-3002**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 40 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Support equip:** Cables; Software **Units sold:** 500 since 1984 **Cost:** $2,900

☐ **DOS 40-4000**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 40 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Units sold:** 2,000 since 1984 **Cost:** $6,700

☐ **DOS 72-3002**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 72 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Support equip:** Cables; Software **Units sold:** 2,000 since 1984 **Cost:** $3,710

☐ **DOS 72-4000**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 72 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Units sold:** 4,000 since 1984 **Cost:** $7,510

EMULEX CORP.

☐ **ATS Kit**
5-1/4 inch **Capacity:** 112 MB; 146 MB; 319 MB **Backup:** Cartridge streaming tape **Introduced:** 1986 **Cost:** $6,175-$11,100

☐ **Decathlon-ER3/110**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 112 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $8,480

☐ **Decathlon-ER3/110-T**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 112 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $9,580

☐ **Decathlon-ER3/110-110**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 224 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $14,325

☐ **Decathlon-ER3/110-110-T**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 224 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $15,425

☐ **Decathlon-ER3/110-110-110**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 336 MB **Spindle(s):** 3 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $20,675

☐ **Decathlon-ER3/40**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 43 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 50 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $4,795

☐ **Decathlon-ER3/40-T**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 43 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 50 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $5,895

☐ **Decathlon-ER3/40-40**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 86 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 50 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $6,950

☐ **Decathlon-ER3/40-40-T**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 86 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 50 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $8,050

☐ **Decathlon-ER3/40-40-40**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 129 MB **Spindle(s):** 3 **Transfer rate:** 675 KB/sec **Access time:** 50 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $9,600

☐ **Decathlon-ER3/70**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 67 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $6,450

☐ **Decathlon-ER3/70-T**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 67 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $7,550

☐ **Decathlon-ER3/70-70**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 134 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $10,250

☐ **Decathlon-ER3/70-70-T**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 134 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $11,350

☐ **Decathlon-ER3/70-70-70**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 201 MB **Spindle(s):** 3 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $14,575

☐ **Javelin-ED2/110**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 112 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $8,075

☐ **Javelin-ED2/110-T**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 112 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $9,435

☐ **Javelin-ED2/110-110**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 224 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $13,950

☐ **Javelin-ED2/40**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 43 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 65 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $4,395

NATIONAL MEMORY SYSTEMS CORP.
355 Earhart Way
Livermore, CA 94550
(415) 443-1669
TWX: 910386606

National Memory Systems Corp. is a manufacturer of hard disk subsystems with data storage capacities from 84mb to 1600mb. NMSC's PC8000 series has average access times as low as 15ms; data transfer rates up to 2.4mb/sec. and is used with the IBM RT, AT and compatibles. Also available are the PC007 series of WORM optical disk systems and tape backup devices.

☐ Javelin-ED2/40-T
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 43 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 50 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $5,495

☐ Javelin-ED2/40-40
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 86 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 50 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $6,575

☐ Javelin-ED2/70
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 67 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $6,050

☐ Javelin-ED2/70-T
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 67 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Backup:** Cartridge tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $7,530

☐ Javelin-ED2/70-70
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 134 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $9,875

☐ SABRE-ER2/110
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 112 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1983 **Cost:** $7,925

☐ SABRE-ER2/110-I
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 122.5 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Backup:** Cartridge, 10.4 MB **Support equip:** Cables; Software **Introduced:** 1983 **Cost:** $10,495

☐ SABRE-ER2/30
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 36 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1983 **Cost:** $5,200

☐ SABRE-ER2/30-I
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 46.4 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Backup:** Removable 8" cartridge, 10.4 MB **Support equip:** Cables; Software **Introduced:** 1983 **Cost:** $7,775

☐ SABRE-ER2/70
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 67 MB **Spindle(s):** 1 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Support equip:** Cables; Software **Introduced:** 1983 **Cost:** $5,885

☐ SABRE-ER2/70-I
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 77.5 MB **Spindle(s):** 2 **Transfer rate:** 675 KB/sec **Access time:** 30 msec **Backup:** Cartridge tape, 10.4 MB **Support equip:** Cables; Software **Introduced:** 1983 **Cost:** $8,460

EVEREX SYSTEMS, INC.

☐ Everdisk 10
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 150 KB/sec **Access time:** 70 msec **Backup:** Tape cartridge, 60 MB; Cassette, 20 MB **Support equip:** Cables; Software **Units sold:** 20,000 since 1984 **Cost:** $1,135

☐ Everdisk 20
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 150 KB/sec **Access time:** 80 msec **Backup:** Cassette, 20 MB **Support equip:** Cables; Software **Units sold:** 20,000 since 1984 **Cost:** $1,395

EXPRESS SYSTEMS, INC.

☐ Express Hard Disk Card
Reviewed May 1986 p. 94.
3-1/2 inch **Capacity:** 20 MB **Introduced:** 1985 **Cost:** $595

FIRST CAPITOL COMPUTER

☐ Winchester Upgrades
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 12 MB-170 MB **Transfer rate:** 625 KB/sec **Access time:** 28 to 65 msec **Units sold:** 300 since 1985 **Cost:** $500-$3,000

FIRST CLASS PERIPHERALS

☐ The Sider
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB-20 MB **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Reel to reel tape, 20 MB **Support equip:** Cables **Units sold:** 18,001 since 1984 **Cost:** $695-$995

FRANKLIN TELECOM

☐ FTC 15+5
5-1/4 inch **Capacity:** 15 MB **Transfer rate:** 625 KB/sec **Access time:** 27 msec **Backup:** Removable cartridge disk, 5 MB

☐ FTC 22+5
5-1/4 inch **Capacity:** 22 MB **Transfer rate:** 625 KB/sec **Access time:** 27 msec **Backup:** Removable cartridge disk, 5 MB

☐ FTC 33+5
5-1/4 inch **Capacity:** 33 MB **Transfer rate:** 625 KB/sec **Access time:** 27 msec **Backup:** Removable cartridge disk, 5 MB

☐ F10
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Transfer rate:** 625 KB/sec **Access time:** 65 msec **Support equip:** Cables; Software; ROM

☐ F15
5-1/4 inch **Capacity:** 15.5 MB **Transfer rate:** 625 KB/sec **Access time:** 72 msec

☐ F22
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 22.1 MB **Transfer rate:** 625 KB/sec **Access time:** 27 msec **Support equip:** Cables

☐ F33
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 33.4 MB **Transfer rate:** 625 KB/sec **Access time:** 27 msec

☐ M Series
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 12 MB-160 MB **Transfer rate:** 625 KB/sec **Access time:** 27 msec **Backup:** Tape, 10 MB, 45 MB, 60 MB **Support equip:** Cables; ROM

FUJITSU AMERICA, INC.
Storage & Peripheral Products Division

☐ M2223A
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 88 msec **Introduced:** 1985 **Cost:** $430 (qty. 100)

☐ M2224A
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 15 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 88 msec **Introduced:** 1985 **Cost:** $500 (qty. 100)

☐ M2233AS
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10.5 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 83 msec **Introduced:** 1983 **Cost:** $445 (qty. 100)

☐ M2233AT
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10.5 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 95 msec **Introduced:** 1984 **Cost:** $445 (qty. 100)

☐ M2235AS
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 21 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 83 msec **Introduced:** 1983 **Cost:** $585 (qty. 100)

☐ M2242AS
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 43.2 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 33 msec **Introduced:** 1984 **Cost:** $1,285 (qty. 100)

☐ M2243AS
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 67.8 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 33 msec **Introduced:** 1984 **Cost:** $1,545 (qty. 100)

GENIE TECHNOLOGIES CORP.

☐ Genie x11
5-1/4 inch **Capacity:** 11 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 40 msec **Backup:** Cartridge disk **Introduced:** 1984 **Cost:** $3,795

☐ Genie x5
5-1/4 inch **Capacity:** 5 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 40 msec **Backup:** Cartridge disk **Units sold:** 3,000 since 1982 **Cost:** $2,995

☐ Genie 10+
5-1/4 inch **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 97 msec **Backup:** Cartridge disk **Introduced:** 1984 **Cost:** $1,995-$2,495

☐ Genie 10+10
5-1/4 inch **Capacity:** 20 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 97 msec **Backup:** Cartridge disk **Introduced:** 1984 **Cost:** $3,695

☐ Genie 11+11
5-1/4 inch **Capacity:** 11 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 40 msec **Backup:** Cartridge disk, 11 MB **Introduced:** 1984 **Cost:** $3,995

☐ Genie 5+5
5-1/4 inch **Capacity:** 5 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 40 msec **Backup:** Cartridge disk, 5 MB **Units sold:** 3,000 since 1982 **Cost:** $3,295

☐ Model 10F
5-1/4 inch **Capacity:** 10 MB **Transfer rate:** 625 KB/sec **Access time:** 77 msec **Units sold:** 2,000 since 1982 **Cost:** $1,995

☐ Model 15F
5-1/4 inch **Capacity:** 15 MB **Transfer rate:** 625 KB/sec **Access time:** 77 msec **Introduced:** 1982 **Cost:** $2,195

☐ Model 20F
5-1/4 inch **Capacity:** 20 MB **Transfer rate:** 625 KB/sec **Access time:** 77 msec **Introduced:** 1982 **Cost:** $2,495

☐ Model 33F
5-1/4 inch **Capacity:** 33 MB **Transfer rate:** 625 KB/sec **Access time:** 77 msec **Introduced:** 1984 **Cost:** $2,995

GENOA SYSTEMS CORP.
SEE AD ON PAGE 189

☐ Model 2110/2210
5-1/4 inch **Capacity:** 10.65 MB **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Cartridge tape, 45 MB-60 MB

☐ Model 2120/2220
5-1/4 inch **Capacity:** 21.30 MB **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Cartridge tape, 45 MB-60 MB

GREATWEST TECHNOLOGY, LTD.
SYSDYNE Products Division

☐ HDR 20AT/30AT
5-1/4 inch **Capacity:** 20 MB; 30 MB **Transfer rate:** 625 KB/sec **Access time:** 40 msec

☐ HDR 40H
5-1/4 inch **Capacity:** 40 MB **Transfer rate:** 625 KB/sec **Access time:** 35 msec

☐ HDR/HDS 20H
3-1/2 inch **Capacity:** 20 MB **Transfer rate:** 625 KB/sec **Access time:** 80 msec **Support equip:** Cables

☐ HDS 10H
5-1/4 inch **Capacity:** 10 MB **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables

☐ PHD
3-1/2 inch **Capacity:** 10.6 MB **Transfer rate:** 400 KB/sec

HEWLETT-PACKARD CO.

☐ HP 9134L
5-1/4 inch **Capacity:** 40 MB **Backup:** Diskette **Introduced:** 1985 **Cost:** $4,050

☐ HP 97503B
3-1/2 inch **Capacity:** 20 MB **Introduced:** 1986

IDEASSOCIATES, INC.

☐ Diskit 2
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Removable cartridge, 10 MB; Streaming tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1985 **Cost:** $3,595

☐ Diskit-AT
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB-120 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 to 85 msec **Backup:** Removable cartridge, 10 MB; Streaming tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $1,195-$8,195

☐ Diskit-XT
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB-120 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28-85 msec **Backup:** Removable cartridge, 10 MB; Streaming tape, 60 MB **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $945-$8,395

☐ IDEAdisk: DPR Series
Other sub 4 inch PCDOS 3.0 compatible **Capacity:** 5 MB-130 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Backup:** Diskette; Cartridge 5 MB-10 MB; Streaming tape, 40 MB-60 MB **Support equip:** Cables; Software **Introduced:** 1983 **Cost:** $1,595-$9,195

I2 INTERFACE, INC.

☐ I2 BM-10HHP
5-1/4 inch **Capacity:** 10.6 MB **Cost:** $1,145

☐ I2 BM-10P
5-1/4 inch **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Units sold:** 3,000 since 1982 **Cost:** $1,395

☐ I2 BM-10S
5-1/4 inch **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Units sold:** 1,500 since 1982 **Cost:** $1,095

☐ I2 BM-10X
5-1/4 inch **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Units sold:** 150 since 1982 **Cost:** $1,095

☐ I2 BM-119P
5-1/4 inch **Capacity:** 119.7 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Introduced:** 1984 **Cost:** $7,900

☐ I2 BM-15P
5-1/4 inch **Capacity:** 15.9 MB **Access time:** 85 msec **Units sold:** 5,000 since 1983 **Cost:** $1,695

☐ I2 BM-15S
5-1/4 inch **Capacity:** 15 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Units sold:** 1,200 since 1982 **Cost:** $1,245

☐ I2 BM-15X
5-1/4 inch **Capacity:** 15 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Units sold:** 75 since 1982 **Cost:** $1,245

☐ I2 BM-160P
5-1/4 inch **Capacity:** 159.9 MB **Cost:** $8,500

☐ I2 BM-21P
5-1/4 inch **Capacity:** 21 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 77 msec **Units sold:** 1,000 since 1982 **Cost:** $1,895

☐ I2 BM-22HHP
5-1/4 inch **Capacity:** 21.3 MB **Cost:** $1,295

☐ I2 BM-22X
5-1/4 inch **Capacity:** 25 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 54 msec **Introduced:** 1982 **Cost:** $1,795

☐ I2 BM-30P
5-1/4 inch **Capacity:** 31.9 MB **Cost:** $2,195

☐ I2 BM-33P
5-1/4 inch **Capacity:** 33 MB **Access time:** 40 msec **Units sold:** 2,000 since 1983 **Cost:** $2,695

☐ I2 BM-42HHP
5-1/4 inch **Capacity:** 42.3 MB **Cost:** $2,495

☐ I2 BM-55P
5-1/4 inch **Capacity:** 55.7 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Introduced:** 1984 **Cost:** $5,200

☐ I2 BM-71P
5-1/4 inch **Capacity:** 71.3 MB **Cost:** $4,195

☐ I2 BM-87P
5-1/4 inch **Capacity:** 87.7 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Introduced:** 1984 **Cost:** $6,300

☐ I2 DS10H10R
5-1/4 inch **Capacity:** 10.6 MB **Backup:** Removable Winchester cartridge, 10.5 MB **Cost:** $2,895

☐ I2 DS22H10R
5-1/4 inch **Capacity:** 21.3 MB **Backup:** Removable Winchester cartridge, 10.5 MB **Cost:** $3,295

☐ I2 DS33H10R
5-1/4 inch **Capacity:** 31.9 MB **Backup:** Removable Winchester cartridge, 10.5 MB **Cost:** $4,095

☐ I2 DS42H10R
5-1/4 inch **Capacity:** 42.2 MB **Backup:** Removable Winchester cartridge, 10.5 MB **Cost:** $4,495

☐ I2 INTF119
5-1/4 inch **Capacity:** 119.3 MB **Cost:** $6,895

☐ I2 INTF30
5-1/4 inch **Capacity:** 31.9 MB **Cost:** $1,795

☐ I2 INTF71
5-1/4 inch **Capacity:** 71.3 MB **Cost:** $3,695

☐ I2 INTH10
5-1/4 inch **Capacity:** 10.6 MB **Cost:** $995

☐ I2 INTH22
5-1/4 inch **Capacity:** 21.3 MB **Cost:** $1,195

☐ I2 INTH42
5-1/4 inch **Capacity:** 42.6 MB **Cost:** $2,295

☐ I2 286F117
5-1/4 inch **Capacity:** 117.5 MB **Cost:** $6,995

☐ I2 286F30
5-1/4 inch **Capacity:** 31.9 MB **Cost:** $1,995

☐ I2 286F71
5-1/4 inch **Capacity:** 71.3 MB **Cost:** $3,695

☐ I2 286H22
5-1/4 inch **Capacity:** 21.4 MB **Cost:** $1,295

☐ I2 286H42
5-1/4 inch **Capacity:** 42.2 MB **Cost:** $2,595

☐ I2 286Q21F
5-1/4 inch **Capacity:** 21.4 MB **Cost:** $1,695

☐ Removable Cartridge Winchester
5-1/4 inch **Capacity:** 10.5 MB **Cost:** $1,695-$2,295

J & M SYSTEMS, LTD.

☐ JHD-III
5-1/4 inch **Capacity:** 10 MB **Units sold:** 10 since 1984 **Cost:** $1,395

JOSEPHINE COUNTY TECHNOLOGY, INC. (JCT)

☐ JCT-1001
5-1/4 inch **Capacity:** 3.7 MB **Introduced:** 1986 **Cost:** $330

☐ JCT-1003
5-1/4 inch **Capacity:** 3.7 MB **Introduced:** 1986 **Cost:** $455

☐ JCT-1006
5-1/4 inch **Capacity:** 5 MB **Introduced:** 1986 **Cost:** $380

☐ JCT-1008
5-1/4 inch **Capacity:** 5 MB **Introduced:** 1986 **Cost:** $495

☐ JCT-1011
5-1/4 inch **Capacity:** 10 MB **Introduced:** 1986 **Cost:** $415

☐ JCT-1013
5-1/4 inch **Capacity:** 10 MB **Introduced:** 1986 **Cost:** $530

☐ JCT-1021
5-1/4 inch **Capacity:** 20 MB **Introduced:** 1986 **Cost:** $505

☐ JCT-1023
5-1/4 inch **Capacity:** 20 MB **Introduced:** 1986 **Cost:** $620

☐ JCT-1120
5-1/4 inch **Capacity:** 20 MB **Introduced:** 1986 **Cost:** $1,095

☐ JCT-1140
5-1/4 inch **Capacity:** 40 MB **Introduced:** 1986 **Cost:** $1,378

KAMERMAN LABS

☐ MF-20/60
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Streaming tape, 60 MB **Support equip:** Software **Introduced:** 1985 **Cost:** $2,495

☐ MF-30/60
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Streaming tape, 60 MB **Support equip:** Software **Introduced:** 1985 **Cost:** $2,895

KUSTOM ELECTRONICS, INC.

Path Bank Division

☐ Data Bank MS-10F/5R
5-1/4 inch **Capacity:** 10.5 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 90 msec **Backup:** Removable cartridge, 5 MB **Introduced:** 1985 **Cost:** $1,995

☐ Data Bank MS-10IR
5-1/4 inch **Capacity:** 10 MB **Backup:** Removable cartridge, 10 MB **Introduced:** 1985 **Cost:** $1,595

☐ Data Bank MS-10R
5-1/4 inch **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 90 msec **Backup:** Removable cartridge, 10 MB **Introduced:** 1985 **Cost:** $1,895

☐ Data Bank MS-10R/10R
5-1/4 inch **Capacity:** 10 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 90 msec **Backup:** Removable cartridge, 20 MB **Introduced:** 1985 **Cost:** $2,995

☐ Data Bank MS-20F/10R
5-1/4 inch **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 90 msec **Backup:** Removable cartridge, 10 MB **Introduced:** 1985 **Cost:** $2,345

LA PINE TECHNOLOGY

☐ TITAN 20
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 66 msec **Units sold:** 35,000 since 1984 **Cost:** $300-$400

LANCORE TECHNOLOGIES, INC.

☐ Core 45
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 43.35 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Backup:** Magnetic tape, 60 MB **Support equip:** Software; ROM **Introduced:** 1984 **Cost:** $5,995

☐ Core 75
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 71.30 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Backup:** Magnetic tape, 60 MB **Support equip:** Software; ROM **Introduced:** 1984 **Cost:** $6,995

LINDE TECHNOLOGY, INC.

☐ Winchester Drive
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB; 20 MB **Access time:** 45 to 85 msec **Units sold:** 8,500 since 1984 **Cost:** $945-$1,495

MAGNA COMPUTER CORP.

☐ PC Freedom
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB-67 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 95 to 135 msec **Backup:** Removable cartridge, 10 MB **Introduced:** 1984 **Cost:** $1,195-$4,745

MAYNARD ELECTRONICS

☐ ATi 20
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Transfer rate:** 625 KB/sec **Access time:** 55 msec **Support equip:** Cables; Software; ROM **Introduced:** 1984 **Cost:** $895

☐ ATi 30
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Transfer rate:** 625 KB/sec **Access time:** 55 msec **Support equip:** Cables; Software; ROM **Introduced:** 1984 **Cost:** $1,395

☐ DX-30
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Transfer rate:** 625 KB/sec **Access time:** 35 msec **Support equip:** Cables; Software; ROM **Introduced:** 1986 **Cost:** $2,490

☐ GEMINI
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Transfer rate:** 625 KB/sec **Access time:** 70 msec **Backup:** Diskette, 0.35 MB **Support equip:** Cables; Software; ROM **Introduced:** 1984 **Cost:** $1,175

☐ OnBoard 10
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables; Software; ROM **Introduced:** 1986 **Cost:** $975

☐ OnBoard 20
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Transfer rate:** 625 KB/sec **Access time:** 60 msec **Support equip:** Cables; Software; ROM **Introduced:** 1986 **Cost:** $1,195

☐ PCi 10
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Transfer rate:** 625 KB/sec **Access time:** 70 msec **Support equip:** Cables; Software; ROM **Introduced:** 1984 **Cost:** $950

☐ PCi 20
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Transfer rate:** 625 KB/sec **Access time:** 70 msec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $1,095

☐ PCi 30
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Transfer rate:** 625 KB/sec **Access time:** 55 msec **Support equip:** Cables; Software; ROM **Introduced:** 1984 **Cost:** $1,900

☐ Transport 10
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Transfer rate:** 625 KB/sec **Access time:** 55 msec **Support equip:** Cables; Software; ROM **Introduced:** 1985 **Cost:** $1,295

☐ Transport 20
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Transfer rate:** 625 KB/sec **Access time:** 55 msec **Support equip:** Cables; Software; ROM **Introduced:** 1985 **Cost:** $1,495

☐ XTi 20
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Transfer rate:** 625 KB/sec **Access time:** 55 msec **Support equip:** Cables; Software; ROM **Introduced:** 1985 **Cost:** $1,290

☐ XTi 30
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Transfer rate:** 625 KB/sec **Access time:** 55 msec **Support equip:** Cables; Software; ROM **Introduced:** 1985 **Cost:** $1,790

MEDIA TECHNOLOGY INTERNATIONAL

☐ HC2045
3-1/2 inch **Capacity:** 20 MB **Access time:** 45 msec **Introduced:** 1985

MEGAVAULT MEMORIES

☐ MV-166
8 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 186 MB **Spindle(s):** 1 **Transfer rate:** 1,209 KB/sec **Access time:** 38 msec **Support equip:** Cables; Software **Units sold:** 110 since 1983 **Cost:** $2,120

☐ MV-212
8 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 212 MB **Spindle(s):** 1 **Transfer rate:** 1,209 KB/sec **Access time:** 38 msec **Support equip:** Cables; Software **Units sold:** 800 since 1983 **Cost:** $2,650

☐ MV-83S
8 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 83 MB **Spindle(s):** 1 **Transfer rate:** 1,209 KB/sec **Access time:** 38 msec **Support equip:** Cables; Software **Units sold:** 500 since 1982 **Cost:** $2,000

☐ Vault 10
8 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 212 MB **Spindle(s):** 1 **Transfer rate:** 1,209 KB/sec **Access time:** 38 msec **Support equip:** Cables; Software **Units sold:** 220 since 1983 **Cost:** $3,580

MICRO CONNECTIONS, INC.

☐ MC-80
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 80 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Backup:** Cartridge tape **Support equip:** Cables **Units sold:** 1,000 since 1984 **Cost:** $3,595

MICRO-DESIGN

☐ DATA Series
5-1/4 inch **Capacity:** 10 MB-40 MB **Transfer rate:** 625 KB/sec **Access time:** 40 msec **Introduced:** 1984 **Cost:** $2,495-$4,395

☐ PRO Series
5-1/4 inch **Capacity:** 10 MB-30 MB **Transfer rate:** 625 KB/sec **Access time:** 80 msec **Introduced:** 1984 **Cost:** $945-$2,895

☐ SQ Series
5-1/4 inch **Capacity:** 5 MB-35 MB **Transfer rate:** 625 KB/sec **Access time:** 70 msec **Introduced:** 1984 **Cost:** $1,995-$4,995

MICROCOMPUTER MEMORIES, INC.

☐ M 125
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 75 msec **Introduced:** 1985

☐ M 212
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 75 msec **Introduced:** 1984

☐ M 225
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 75 msec **Introduced:** 1984

☐ M 312
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 75 msec **Introduced:** 1984

☐ M 325
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 75 msec **Introduced:** 1985

☐ TRANSPAC
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 10 MB; 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 15 msec **Support equip:** Cables **Introduced:** 1986 **Cost:** $595 (10 MB); $895 (20 MB)

MICROPOLIS CORP.

☐ Model 1302
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 25.9 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Introduced:** 1983 **Cost:** $975 (qty. 1,000)

☐ Model 1303
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 43.2 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Introduced:** 1983 **Cost:** $1,052 (qty. 1,000)

☐ Model 1304
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 51.9 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Introduced:** 1983 **Cost:** $1,105 (qty. 1,000)

☐ Model 1323
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 33.6 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Introduced:** 1984 **Cost:** $1,023 (qty. 1,000)

☐ Model 1323A
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 53.3 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Introduced:** 1984 **Cost:** $1,080 (qty. 1,000)

☐ Model 1324
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 50.3 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Introduced:** 1984 **Cost:** $1,131 (qty. 1,000)

☐ Model 1324A
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 74.7 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Introduced:** 1984 **Cost:** $1,131 (qty. 1,000)

☐ Model 1325
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 67.1 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Introduced:** 1984 **Cost:** $1,250 (qty. 1,000)

MICROSCIENCE INTERNATIONAL CORP.

☐ Easycard
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Introduced:** 1985 **Cost:** $895

MINISCRIBE CORP.

☐ Miniscribe 3212 Plus
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Units sold:** 105,000 since 1983 **Cost:** $255 (qty. 500)

☐ Miniscribe 3425
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Units sold:** 205,000 since 1984 **Cost:** $335 (qty. 500)

MITSUBA CORP.

☐ Slim Line 10M HD
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Access time:** 105 msec **Backup:** Tape, 60 MB **Units sold:** 5,000 since 1984 **Cost:** $849

MITSUBISHI ELECTRONICS AMERICA, INC.

☐ MR533
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 30.33 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 38 msec **Introduced:** 1986 **Cost:** $770

☐ MR535
5-1/4 inch PCDOS 3.0 compatible **Capacity:** (unformatted) 50.55 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 38 msec **Introduced:** 1986 **Cost:** $900

MOUNTAIN COMPUTER, INC.

☐ DriveCard 20
3-1/2 inch **Capacity:** 20 MB **Units sold:** 25,000 since 1985 **Cost:** $995

☐ DriveCard 30
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Spindle(s):** 2 **Units sold:** 5,000 since 1986 **Cost:** $1,449

☐ Filesafe Disk (20-120 MB)
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB-120 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Diskette; Streaming tape **Support equip:** Cables **Units sold:** 15,200 since 1982 **Cost:** $1,745-$7,995

NCR CORP.

☐ Model 6097-5341
5-1/4 inch Capacity: 30 MB Transfer rate: 420 KB/sec Access time: 53 msec Introduced: 1985 Cost: $3,495

☐ Model 6097-5441
5-1/4 inch Capacity: 60 MB Spindle(s): 2 Transfer rate: 420 KB/sec Access time: 53 msec Cost: $5,495

☐ Model 6097-7242
5-1/4 inch Capacity: 30 MB Transfer rate: 420 KB/sec Access time: 53 msec Backup: Streaming tape, 60 MB Introduced: 1985 Cost: $4,995

NIPPON ELECTRIC INDUSTRY CO., LTD.

☐ RD-3127
5-1/4 inch *PCDOS* 3.0 compatible Capacity: (unformatted) 12.7 *MB Spindle(s)*: 1 Transfer rate: 625 KB/sec Access time: 85 *msec* Units sold: 6,000 since 1985

☐ RD-3255
5-1/4 inch PCDOS 3.0 compatible Capacity: (unformatted) 25.5 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Units sold: 10,000 since 1985

☐ RD-4064
5-1/4 inch PCDOS 3.0 *compatible* Capacity: (unformatted) 6.4 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Units sold: 3,000 since 1983

☐ RD-4127
5-1/4 inch PCDOS 3.0 compatible Capacity: (unformatted) 12.7 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Units sold: 15,000 since 1983

☐ RD-4191
5-1/4 inch PCDOS 3.0 compatible Capacity: (unformatted) 19.1 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Units sold: 8,500 since 1983

☐ RD-4255
5-1/4 inch PCDOS 3.0 compatible Capacity: (unformatted) 25.5 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Units sold: 38,000 since 1983

NISSEI SANGYO AMERICA, LTD. (NSA)

☐ DK-503 Series
5-1/4 inch Capacity: 13.33 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Introduced: 1984 Cost: $470 (qty. 100)

☐ DK-511 Series
5-1/4 inch Capacity: 51 MB-85 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 25 msec Backup: Diskette, 6.5 MB Introduced: 1984

NISSHO ELECTRONICS (U.S.A.) CORP.

(subsidiary of Nissho Iwai American Corp.)

☐ N8000
8 inch Capacity: 167.7 MB Spindle(s): 1 Transfer rate: 1,228 KB/sec Access time: 20 msec Support equip: Cables; Software Units sold: 10 since 1985 Cost: $9,950

PC SOURCE

☐ FlashCard
3-1/2 inch Capacity: 20 MB Introduced: 1986 Cost: $595

PC'S LIMITED

☐ HH612
5-1/4 inch Capacity: 10 MB Transfer rate: 5,120 KB/sec Access time: 70 msec

☐ HH725
5-1/4 inch Capacity: 20 MB Transfer rate: 5,120 KB/sec Access time: 80 msec

☐ PC 117
5-1/4 inch Capacity: 117 MB Transfer rate: 625 KB/sec Access time: 30 msec

PERCOM DATA CORP.

☐ PHD-10I
5-1/4 inch Capacity: 10 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 80 msec Introduced: 1985 Cost: $1,149

☐ PHD-20AT
5-1/4 inch Capacity: 22 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Introduced: 1984 Cost: $1,495

☐ PHD-20I
5-1/4 inch Capacity: 22 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Introduced: 1984 Cost: $1,910

☐ PHD-30AT
5-1/4 inch Capacity: 31.4 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Introduced: 1985 Cost: $1,995

☐ PHD-30I
5-1/4 inch Capacity: 31.4 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Introduced: 1985 Cost: $2,495

PERIPHERAL SOURCES, INC.

☐ VX3300
8 inch PCDOS 3.0 compatible Capacity: 300 MB-900 MB Spindle(s): 3 Transfer rate: 1,070 KB/sec Access time: 22 msec Backup: Streaming tape Introduced: 1984 Cost: $14,995-$24,995; Lease (mo.) —$1,595

PERIPHERAL TECHNOLOGY CORP.

☐ Data Vault Series
5-1/4 inch PCDOS 3.0 compatible Capacity: 150 MB-320 MB Transfer rate: 1,024 KB/sec Access time: 20 msec Backup: Streaming tape, 55 MB Support equip: Software Introduced: 1986 Cost: $6,995-$8,495

PERIPHERAL TECHNOLOGY, INC. (PTI)

☐ PT325/338
3-1/2 inch PCDOS 3.0 compatible Capacity: 30.3 MB; 38.4 MB Transfer rate: 625 KB/sec Access time: 40 msec Introduced: 1986

PLUS DEVELOPMENT CORP.

(subsidiary of Quantum Corp.)

☐ Hardcard
Reviewed Feb 1986 p. 31; Feb 1986 p. 139.
3-1/2 inch PCDOS 3.0 compatible Capacity: 10 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 65 msec Support equip: Software Introduced: 1985 Cost: $895

PORTABLE SOLUTIONS, INC.

☐ BP-25+
5-1/4 inch Capacity: 23 MB Backup: Streaming tape, 20 MB Cost: $1,395

☐ BP-45
5-1/4 inch Capacity: 55 MB Backup: Cassette tape, 55 MB Introduced: 1986 Cost: $1,695

PRIAM CORP.

☐ ID100
5-1/4 inch Capacity: 100 MB Introduced: 1986 Cost: $2,698

☐ ID40-AT/XT
5-1/4 inch Capacity: 42.7 MB Transfer rate: 625 KB/sec Access time: 30 msec Support equip: Cables; Software Cost: $1,398

☐ ID60-AT/XT
8 inch Capacity: 59.8 MB Transfer rate: 625 KB/sec Access time: 30 msec Cost: $1,798

☐ Model DT01-03-01
5-1/4 inch Capacity: 75 MB Backup: Cartridge tape, 60 MB Cost: $7,995

☐ Model DT01-06-01
5-1/4 inch Capacity: 160 MB Backup: Cartridge tape, 60 MB Cost: $9,995

☐ Model DT01-07-01
5-1/4 inch Capacity: 292 MB Backup: Cartridge tape, 60 MB Cost: $12,995

☐ Model DT01-53-01
5-1/4 inch Capacity: 75 MB Cost: $6,995

☐ Model DT01-56-01
5-1/4 inch Capacity: 160 MB Cost: $8,995

☐ Model DT01-57-01; DT01-D7-01
5-1/4 inch Capacity: 292 MB; 584 MB Cost: $11,995; $16,995

QDP COMPUTER SYSTEMS, INC.

☐ HD10
5-1/4 inch PCDOS 3.0 compatible Capacity: 10 MB Transfer rate: 625 KB/sec Access time: 2 msec Backup: Streaming tape, 10 MB Support equip: Cables; Software; ROM Units sold: 3,500 since 1982 Cost: $895

☐ HD20
5-1/4 inch PCDOS 3.0 compatible Capacity: 20 MB Transfer rate: 625 KB/sec Access time: 2 msec Backup: Streaming tape, 10 MB Support equip: Cables; Software; ROM Units sold: 3,000 since 1982 Cost: $995

☐ HD30/HD32
5-1/4 inch PCDOS 3.0 compatible Capacity: 32 MB Transfer rate: 625 KB/sec Access time: 2 msec Backup: Streaming tape, 10 MB-60 MB Support equip: Cables; Software; ROM Units sold: 1,200 since 1983 Cost: $1,995

QIC RESEARCH, INC.

☐ QIC-01
5-1/4 inch Capacity: 10 MB Cost: $585

☐ QIC-20C
5-1/4 inch Capacity: 20 MB Access time: 40 msec

☐ QIC-20MS
5-1/4 inch Capacity: 20 MB Cost: $849

☐ QIC-40C
5-1/4 inch Capacity: 40 MB Access time: 40 msec

QUADRAM

(subsidiary of Intelligent Systems Corp.)

☐ QuadDrive Series
5-1/4 inch Capacity: 10 MB-72 MB Access time: 38 msec Support equip: Software

QUBIE

☐ HARDPACK 20
3-1/2 inch PCDOS 3.0 compatible Capacity: 20 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 80 msec Support equip: Cables; Software Introduced: 1986 Cost: $549

☐ PC20
5-1/4 inch PCDOS 3.0 compatible Capacity: 20 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 80 msec Support equip: Cables; Software Units sold: 25,000 since 1983 Cost: $549

☐ PC20E
5-1/4 inch PCDOS 3.0 compatible Capacity: 20 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 80 msec Support equip: Cables; Software Units sold: 10,000 since 1983 Cost: $699

RACET COMPUTES, LTD.

☐ PCMS-150
Reviewed May 1986 p. 94.
8 inch PCDOS 3.0 compatible Capacity: 160 MB Spindle(s): 1 Transfer rate: 1,209 KB/sec Access time: 22 msec Backup: Streaming tape, 150 MB Units sold: 52 since 1984 Cost: $16,-500

☐ PCMS-250
8 inch PCDOS 3.0 compatible Capacity: 260 MB Spindle(s): 1 Transfer rate: 1,209 KB/sec Access time: 22 msec Backup: Streaming tape, 150 MB Units sold: 10 since 1985 Cost: $19,-900

☐ PCMS-411
14 inch PCDOS 3.0 compatible Capacity: 411 MB Spindle(s): 1 Transfer rate: 1,280 KB/sec Access time: 25 msec Backup: Streaming tape, 150 MB Units sold: 35 since 1984 Cost: $24,-900

☐ PCMS-411FTX
14 inch PCDOS 3.0 compatible Capacity: 822 MB Spindle(s): 2 Transfer rate: 1,280 KB/sec Access time: 25 msec Backup: Streaming tape, 150 MB Units sold: 1 since 1984 Cost: $44,900

RIM ELECTRONICS, INC.

☐ Sasitalk
3-1/2 inch Capacity: 10 MB; 20 MB Cost: $240; $360

RODIME, INC.
(division of Rodime PLC)

☐ RO 203E
5-1/4 inch PCDOS 3.0 compatible Capacity: 31 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 55 msec Units sold: 100,000 since 1983

☐ RO 204E
5-1/4 inch PCDOS 3.0 compatible Capacity: 42 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 55 msec Units sold: 100,000 since 1983

☐ RO 252
5-1/4 inch PCDOS 3.0 compatible Capacity: 10 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Units sold: 100,000 since 1983

☐ RO 352
3-1/2 inch PCDOS 3.0 compatible Capacity: 10 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Units sold: 100,000 since 1983

☐ RO 400 Series
5-1/4 inch PCDOS 3.0 compatible Capacity: 35 MB-142 MB Spindle(s): 1 Access time: 30 msec Introduced: 1986

☐ RO 652
3-1/2 inch PCDOS 3.0 compatible Capacity: 20 MB Spindle(s): 1 Transfer rate: 937 KB/sec Access time: 85 msec Units sold: 30,000 since 1985

SANTA CLARA SYSTEMS, INC.

☐ SCS DATASYSTEM 2-003224
5-1/4 inch PCDOS 3.0 compatible Capacity: 32 MB Spindle(s): 2 Transfer rate: 625 KB/sec Access time: 70 msec Backup: Streaming tape, 60 MB Support equip: Cables; Software Units sold: 2,000 since 1985 Cost: $3,995

☐ SCS DATASYSTEM 2-005724
5-1/4 inch PCDOS 3.0 compatible Capacity: 57 MB Spindle(s): 6 Transfer rate: 625 KB/sec Access time: 35 msec Backup: Streaming tape, 60 MB Support equip: Cables; Software Units sold: 750 since 1985 Cost: $4,995

☐ SCS DATASYSTEM 2-007324
5-1/4 inch PCDOS 3.0 compatible Capacity: 73 MB Spindle(s): 8 Transfer rate: 625 KB/sec Access time: 35 msec Backup: Streaming tape, 60 MB Support equip: Cables; Software Units sold: 1,000 since 1985 Cost: $5,295

☐ SCS DATASYSTEM 2-012211
5-1/4 inch PCDOS 3.0 compatible Capacity: 22 MB Spindle(s): 2 Transfer rate: 625 KB/sec Access time: 70 msec Backup: Removable hard disk cartridge, 11 MB Support equip: Cables; Software Units sold: 1,500 since 1985 Cost: $3,495

☐ SCS-22
5-1/4 inch PCDOS 3.0 compatible Capacity: 22 MB Spindle(s): 2 Transfer rate: 625 KB/sec Access time: 70 msec Support equip: Cables; Software Units sold: 2,000 since 1985 Cost: $2,-695

☐ SCS-32
5-1/4 inch PCDOS 3.0 compatible Capacity: 32 MB Spindle(s): 4 Transfer rate: 625 KB/sec Access time: 70 msec Support equip: Cables; Software Units sold: 2,500 since 1985 Cost: $3,-195

SDM CONTROL CORP.

☐ SDM-65
5-1/4 inch PCDOS 3.0 compatible Capacity: 65 MB Spindle(s): 1 Transfer rate: 1,250 KB/sec Access time: 30 msec Support equip: Cables; Software Units sold: 100 since 1984 Cost: $1,500

SEBRING HARD DISC SYSTEMS
(division of S. M. Rapier Corp.)

☐ CONCOURS 10
5-1/4 inch PCDOS 3.0 compatible Capacity: 10 MB Transfer rate: 625 KB/sec Access time: 85 msec Backup: RALLYE hard disk, 10 MB Support equip: Cables Introduced: 1983 Cost: $2,095

☐ CONCOURS 15
5-1/4 inch PCDOS 3.0 compatible Capacity: 15 MB Transfer rate: 625 KB/sec Access time: 85 msec Backup: RALLYE hard disk, 15 MB Support equip: Cables Introduced: 1984 Cost: $2,295

☐ CONCOURS 20
5-1/4 inch PCDOS 3.0 compatible Capacity: 20 MB Transfer rate: 625 KB/sec Access time: 65 msec Support equip: Cables Introduced: 1984 Cost: $2,495

☐ CONCOURS 30
5-1/4 inch PCDOS 3.0 compatible Capacity: 31 MB Transfer rate: 625 KB/sec Access time: 40 msec Support equip: Cables Introduced: 1984 Cost: $2,895

☐ CONCOURS 5
5-1/4 inch PCDOS 3.0 compatible Capacity: 5 MB Transfer rate: 625 KB/sec Access time: 85 msec Backup: RALLYE hard disk, 5 MB Support equip: Cables Introduced: 1983 Cost: $1,-895

☐ RALLYE 10
5-1/4 inch PCDOS 3.0 compatible Capacity: 10 MB Transfer rate: 625 KB/sec Access time: 85 msec Support equip: Cables Introduced: 1984 Cost: $1,395

☐ RALLYE 15
5-1/4 inch PCDOS 3.0 compatible Capacity: 15 MB Transfer rate: 625 KB/sec Access time: 85 msec Support equip: Cables Introduced: 1984 Cost: $1,595

☐ RALLYE 20
5-1/4 inch PCDOS 3.0 compatible Capacity: 20 MB Transfer rate: 625 KB/sec Access time: 65 msec Support equip: Cables Introduced: 1984 Cost: $1,795

☐ RALLYE 30
5-1/4 inch PCDOS 3.0 compatible Capacity: 31 MB Transfer rate: 625 KB/sec Access time: 40 msec Support equip: Cables Introduced: 1984 Cost: $2,195

☐ RALLYE 5
5-1/4 inch PCDOS 3.0 compatible Capacity: 5 MB Transfer rate: 625 KB/sec Access time: 85 msec Support equip: Cables Introduced: 1984 Cost: $1,195

SIGMA DESIGNS, INC.
SEE AD ON COVER 4

☐ Hard Disk/Tape Subsystems
5-1/4 inch PCDOS 3.0 compatible Capacity: 10 MB; 20 MB; 32 MB; 120 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 35-80 msec Backup: Streaming tape, 60 MB Support equip: Cables; Software Units sold: 5,000 since 1982 Cost: $1,-395-$7,495

SILICON VALLEY COMPUTER

☐ Gold Card
3-1/2 inch Capacity: 21 MB; 32 MB Cost: $499-$795

STAR TECHNOLOGIES, INC.

☐ Super DART
5-1/4 inch PCDOS 3.0 compatible Capacity: 23 MB Spindle(s): 1 Transfer rate: 1,066 KB/sec Access time: 30 msec Backup: Streaming tape; Diskette 5-1/4 inch Units sold: 500 since 1981 Cost: $9,100

STATEWIDE MICROELECTRONICS, INC.

☐ drive C
3-1/2 inch Capacity: 20 MB Introduced: 1985 Cost: $495

SUMITRONICS, INC.
(subsidiary of Sumitomo Corp.)

☐ DK-2000
5-1/4 inch Capacity: 21.4 MB Transfer rate: 625 KB/sec Access time: 85 msec

☐ DK-4000
5-1/4 inch Capacity: 43.4 MB Transfer rate: 625 KB/sec Access time: 30 msec

☐ DK-8000
5-1/4 inch Capacity: 71.5 MB Transfer rate: 625 KB/sec Access time: 23 msec

☐ DKF-2500
5-1/4 inch Capacity: 21.4 MB Transfer rate: 625 KB/sec Access time: 85 msec Backup: Diskette, 4.8 MB

☐ DKF-4500
5-1/4 inch Capacity: 43.4 MB Transfer rate: 625 KB/sec Access time: 30 msec Backup: Diskette, 4.8 MB

☐ DKF-8500
5-1/4 inch Capacity: 71.5 MB Transfer rate: 625 KB/sec Access time: 23 msec Backup: Diskette, 4.8 MB

SUMO SYSTEMS

☐ External Subsystem
5-1/4 inch Capacity: 10 MB-60 MB Backup: Removable cartridge, 10 MB Units sold: 2,000 since 1983 Cost: $550-$815

☐ Internal Subsystem
5-1/4 inch Capacity: 20 MB-120 MB Backup: Tape subsystem, 60 MB Units sold: 8,000 since 1983 Cost: $295-$2,850

SUNOL SYSTEMS

☐ SSD-10
5-1/4 inch PCDOS 3.0 compatible Capacity: 10 MB Spindle(s): 2 Transfer rate: 625 KB/sec Access time: 70 msec Backup: Removable tape cartridge, 26.5 MB Units sold: 4,500 since 1983 Cost: $1,995

☐ SSD-110
5-1/4 inch PCDOS 3.0 compatible Capacity: 110 MB Spindle(s): 2 Transfer rate: 937.5 KB/sec Access time: 30 msec Backup: Removable tape cartridge, 26.3 MB Units sold: 2,000 since 1983 Cost: $6,695

☐ SSD-16
5-1/4 inch PCDOS 3.0 compatible Capacity: 16 MB Spindle(s): 2 Transfer rate: 625 KB/sec Access time: 70 msec Backup: Removable tape cartridge, 26.3 MB Units sold: 6,000 since 1983 Cost: $2,495

☐ SSD-25
5-1/4 inch PCDOS 3.0 compatible Capacity: 25 MB Spindle(s): 2 Transfer rate: 937.5 KB/sec Access time: 70 msec Backup: Removable tape cartridge, 26.3 MB Units sold: 5,000 since 1983 Cost: $2,995

☐ SSD-45
5-1/4 inch PCDOS 3.0 compatible Capacity: 44.5 MB Spindle(s): 5 Transfer rate: 937.5 KB/sec Access time: 30 msec Backup: Removable tape cartridge, 26.3 MB Units sold: 5,000 since 1983 Cost: $4,595

☐ SSD-70
5-1/4 inch PCDOS 3.0 compatible Capacity: 68 MB Spindle(s): 2 Transfer rate: 937.5 KB/sec Access time: 30 msec Backup: Removable tape cartridge, 26.3 MB Units sold: 5,000 since 1983 Cost: $5,295

☐ Sun Talk Disk
5-1/4 inch PCDOS 3.0 compatible Capacity: 110 MB Spindle(s): 2 Access time: 70 msec Backup: Removable tape cartridge, 26.5 MB Introduced: 1985

SYQUEST TECHNOLOGY

☐ SQ306RD
Other sub 4 inch PCDOS 3.0 compatible Capacity: (removable) 5 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 90 msec Units sold: 80,000 since 1982 Cost: $600 (qty. 500)

☐ **SQ312RD**
Other sub 4 inch PCDOS 3.0 compatible **Capacity:** (removable) 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Units sold:** 10,000 since 1984 **Cost:** $775 (qty. 500)

☐ **SQ325F**
Other sub 4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 95 msec **Units sold:** 4,000 since 1984 **Cost:** $625 (qty. 500)

☐ **SQ338F**
Other sub 4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 95 msec **Units sold:** 2,500 since 1984 **Cost:** $725 (qty. 500)

SYSGEN, INC. (CA)

☐ **AT Add-In**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB-70 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 to 85 msec **Backup:** Cartridge, 60 MB **Support equip:** Cables; Software; Interface card **Introduced:** 1985 **Cost:** $2,095-$4,995

☐ **Disk I/O**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 21 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** SmartImage, 20 MB; QIC-File, 60 MB **Support equip:** Cables; Software; Interface card **Introduced:** 1985 **Cost:** $1,995

☐ **DuraPak**
5-1/4 inch **Capacity:** 15 MB **Backup:** Cartridge, 15 MB **Introduced:** 1986 **Cost:** $1,295-$2,095

☐ **FLAT-PAK**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB; 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 to 88.3 msec **Backup:** Cassette, 20 MB; Cartridge, 60 MB **Support equip:** Cables; Software; Interface card **Introduced:** 1986 **Cost:** $1,395-$2,095

☐ **MATCHED PAIR**
5-1/4 inch **Capacity:** 40 MB; 70 MB **Introduced:** 1986 **Cost:** $1,795; $2,995

☐ **Sysgen PLUS**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB; 70 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 to 38 msec **Backup:** Cartridge, 60 MB; Cassette, 20 MB **Support equip:** Cables; Software; Interface card **Introduced:** 1986 **Cost:** $3,695-$5,995

SYSTEMS AND SOFTWARE, INC.

☐ **Model 12RINT**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 12 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 70 msec **Backup:** Removable hard disk cartridge **Support equip:** Cables; Software **Units sold:** 150 since 1985 **Cost:** $1,427

☐ **Model 12R12R**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 24 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 70 msec **Backup:** Removable hard disk cartridge, 12 MB **Support equip:** Cables; Software; ROM **Units sold:** 75 since 1984 **Cost:** $3,451

☐ **Model 12R140PS**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 152 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Removable hard disk cartridge, 12 MB **Support equip:** Cables; Software; ROM **Units sold:** 12 since 1984 **Cost:** $6,897

☐ **Perstor EXT Series**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 26 MB-140 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $1,232-$6,127

☐ **Perstor Fints**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 26 MB-140 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Support equip:** Cables; Software **Introduced:** 1984 **Cost:** $825-$5,720

☐ **Perstor PS12R Plus**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10.5 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 70 msec **Backup:** Removable hard disk cartridge **Support equip:** Cables; Software **Units sold:** 75 since 1985 **Cost:** $1,784

☐ **Perstor PS140 Plus**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10.5 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Removable hard disk cartridge, 12 MB **Support equip:** Cables; Software **Units sold:** 20 since 1985 **Cost:** $5,720

☐ **Perstor PS26 Plus**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Removable hard disk cartridge, 12 MB **Support equip:** Cables; Software **Units sold:** 200 since 1985 **Cost:** $1,031

☐ **Perstor PS32 Plus**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10.5 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Removable hard disk cartridge, 12 MB **Support equip:** Cables; Software **Units sold:** 240 since 1985 **Cost:** $1,949

☐ **Perstor PS53 Plus**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10.5 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Removable hard disk cartridge, 12 MB **Support equip:** Cables; Software **Units sold:** 40 since 1985 **Cost:** $2,367

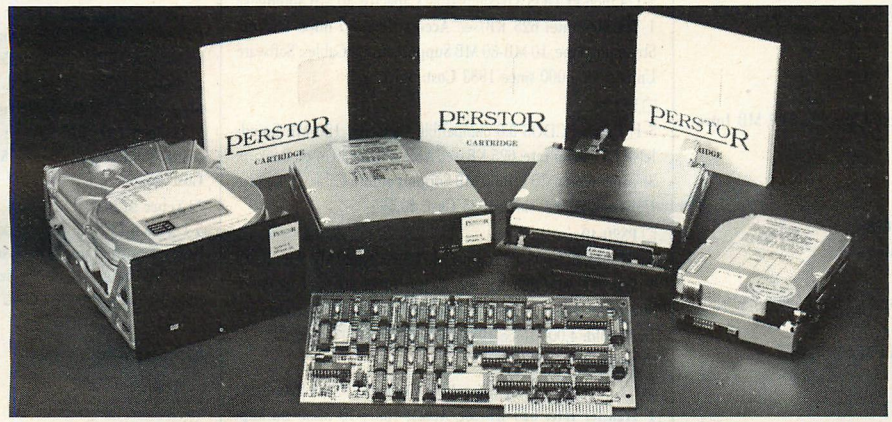
☐ **Perstor PS85 Plus**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10.5 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Removable hard disk cartridge, 12 MB **Support equip:** Cables; Software **Units sold:** 35 since 1985 **Cost:** $3,152

☐ **Perstor 12R26PS**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Removable hard disk cartridge, 12 MB **Support equip:** Cables; Software; ROM **Units sold:** 200 since 1984 **Cost:** $2,002

☐ **Perstor 12R32PS**
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 32 MB **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Removable hard disk cartridge, 12 MB **Support equip:** Cables; Software; ROM **Units sold:** 150 since 1984 **Cost:** $3,126

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CIRCLE NO. 231 ON READER SERVICE CARD

☐ Perstor 12R53PS
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 65 MB **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Removable hard disk cartridge, 12 MB **Support equip:** Cables; Software; ROM **Units sold:** 60 since 1984 **Cost:** $3,544

☐ Perstor 12R85PS
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 72 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Removable hard disk cartridge, 12 MB **Support equip:** Cables; Software; ROM **Units sold:** 23 since 1984 **Cost:** $5,921

SYSTEMS PERIPHERALS CONSULTANTS

☐ Diskit Series
5-1/4 inch **Capacity:** 5 MB-140 MB **Backup:** Removable cartridge, 5 MB-10 MB

☐ Scorecard
3-1/2 inch **Capacity:** 22 MB **Access time:** 80 msec **Backup:** Removable cartridge **Introduced:** 1986 **Cost:** $895

TALLGRASS TECHNOLOGIES CORP.
SEE AD ON PAGE 137

☐ TG-2025e
5-1/4 inch **Capacity:** 25 MB **Backup:** DC-600A; QIC-100 cartridge tape, 20 MB **Units sold:** 1,000 since 1986 **Cost:** $2,295

☐ TG-5025
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 25 MB **Spindle(s):** 1 **Transfer rate:** 655 KB/sec **Access time:** 85 msec **Backup:** DC-600A; QIC-100 cartridge tape, 60 MB **Support equip:** Cables; Software; ROM **Units sold:** 20,000 since 1985 **Cost:** $3,495

☐ TG-6135
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 35 MB **Spindle(s):** 1 **Transfer rate:** 655 KB/sec **Access time:** 35 msec **Backup:** DC-600A; QIC-100 cartridge, 60 MB **Support equip:** Cables; Software; ROM **Units sold:** 16,000 since 1985 **Cost:** $4,495

☐ TG-6150
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 50 MB **Spindle(s):** 1 **Transfer rate:** 655 KB/sec **Backup:** DC-600A; QIC-100 cartridge, 60 MB **Support equip:** Cables; Software; ROM **Units sold:** 4,000 since 1985 **Cost:** $5,495

☐ TG-6180
Reviewed May 1986 p. 94.
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 80 MB **Spindle(s):** 1 **Transfer rate:** 655 KB/sec **Access time:** 30 msec **Backup:** DC-600A; QIC-100 cartridge, 60 MB **Support equip:** Cables; Software; ROM **Units sold:** 4,000 since 1985 **Cost:** $7,495

TANDON CORP.

☐ Diskcard 21
3-1/2 inch PCDOS 3.0 compatible **Capacity:** 21.3 MB **Introduced:** 1985 **Cost:** $895

TANDY/RADIO SHACK

☐ Tandy Hard Disk Drive (25-1025)
5-1/4 inch **Capacity:** 10 MB **Cost:** $450

☐ Tandy 15 MB Disk System
5-1/4 inch **Capacity:** 15 MB **Cost:** $1,295-$1,595

☐ Tandy 35 MB Disk System
5-1/4 inch **Capacity:** 35 MB **Cost:** $2,695-$2,995

TEAC CORP. OF AMERICA (TCA)

☐ PS-5150
5-1/4 inch **Capacity:** 10 MB **Access time:** 65 msec **Backup:** Cassette streaming tape, 10 MB

TECMAR, INC.

☐ Hard Disk in Expansion Chassis (10 MB)
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 70 msec **Support equip:** Software **Introduced:** 1982 **Cost:** $2,795

☐ Hard Disk in Expansion Chassis (15 MB)
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 15 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 70 msec **Support equip:** Software **Introduced:** 1982 **Cost:** $3,195

☐ Hard Disk in Expansion Chassis (30 MB)
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 70 msec **Support equip:** Cables; Software **Introduced:** 1985 **Cost:** $4,095

☐ Tecmar AT-HD
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 4 **Transfer rate:** 5,120 KB/sec **Access time:** 45 msec **Support equip:** Cables **Introduced:** 1985 **Cost:** $1,595

☐ Tecmar QIC-60W20
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Streaming tape, 60 MB **Support equip:** Cables **Introduced:** 1985 **Cost:** $3,495

☐ Tecmar QIC-60W20 AT
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 2 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Streaming tape, 60 MB **Support equip:** Cables **Introduced:** 1985 **Cost:** $3,395

☐ Tecmar T-disk
5-1/4 inch **Capacity:** 20 MB **Introduced:** 1986 **Cost:** $1,495

☐ Tecmar XT-HD
5-1/4 inch **Capacity:** 10 MB **Spindle(s):** 4 **Transfer rate:** 5,120 KB/sec **Access time:** 85 msec **Support equip:** Cables **Introduced:** 1985 **Cost:** $989

TW TECHNOLOGIES, INC.

☐ HT10
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 80 msec **Backup:** Streaming tape, 10 MB-60 MB **Support equip:** Cables; Software **Units sold:** 8,000 since 1983 **Cost:** $395

☐ HT20
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 65 msec **Backup:** Streaming tape, 10 MB-60 MB **Support equip:** Cables; Software **Units sold:** 8,000 since 1983 **Cost:** $475

☐ HT30-65
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 80 msec **Backup:** Streaming tape, 10 MB-60 MB **Support equip:** Cables; Software **Units sold:** 3,000 since 1983 **Cost:** $675

☐ PS120
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 120 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 30 msec **Backup:** Streaming tape, 10 MB-60 MB **Support equip:** Cables; Software **Units sold:** 2,000 since 1985 **Cost:** $3,595

☐ PS20-40
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 40 msec **Backup:** Streaming tape, 10 MB-60 MB **Support equip:** Cables; Software **Units sold:** 4,000 since 1983 **Cost:** $725

☐ PS30-40
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 30 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 40 msec **Backup:** Streaming tape, 10 MB-60 MB **Support equip:** Cables; Software **Units sold:** 4,500 since 1983 **Cost:** $895

☐ PS40-30
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 40 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Streaming tape, 10 MB-60 MB **Support equip:** Cables; Software **Units sold:** 4,500 since 1983 **Cost:** $1,150

☐ PS60
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 60 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Streaming tape, 10 MB-60 MB **Support equip:** Cables; Software **Units sold:** 3,000 since 1983 **Cost:** $1,395

☐ PS70
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 70 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 28 msec **Backup:** Streaming tape, 10 MB-60 MB **Support equip:** Cables; Software **Units sold:** 2,000 since 1983 **Cost:** $1,595

U.S. DESIGN CORP.

☐ CSS-800-870
8 inch **Capacity:** 59 MB **Spindle(s):** 1 to 4 **Transfer rate:** 800 KB/sec **Access time:** 20 msec **Backup:** Cartridge tape, 22 MB **Units sold:** 2,000 since 1982 **Cost:** $7,895

☐ VIP Series
5-1/4 inch **Capacity:** (unformatted) 175 MB-1,520 MB **Backup:** Cartridge tape, 100 MB **Units sold:** 1,000 since 1984 **Cost:** $10,995-$29,490

UNITED SYSTEMS CO.

☐ Spark PC-100
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 80 MB **Spindle(s):** 2 **Transfer rate:** 1,200 KB/sec **Access time:** 35 msec **Backup:** Removable cartridge, 20 MB **Support equip:** Cables; Software **Cost:** $10,990-$11,990

☐ Spark PC-130
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 120 MB **Spindle(s):** 2 **Transfer rate:** 1,200 KB/sec **Access time:** 35 msec **Backup:** Removable cartridge, 20 MB **Support equip:** Cables; Software **Cost:** $8,990-$10,990

☐ Spark PC-50
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 20 MB **Spindle(s):** 1 **Transfer rate:** 1,200 KB/sec **Access time:** 35 msec **Backup:** Removable cartridge, 20 MB **Support equip:** Cables; Software **Units sold:** 50 since 1983 **Cost:** $6,990-$7,990

WESTERN DIGITAL CORP.

☐ FileCard
3-1/2 inch **Capacity:** 10.7 MB **Introduced:** 1985 **Cost:** $795

☐ Portafile (10 MB)
5-1/4 inch **Capacity:** 10 MB **Introduced:** 1986 **Cost:** $1,295

☐ Portafile (20 MB)
5-1/4 inch **Capacity:** 20 MB **Introduced:** 1986 **Cost:** $1,495

XEBEC

☐ Owl
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Backup:** Cartridge tape, 20 MB **Support equip:** Cables; Software; ROM **Units sold:** 25,000 since 1985 **Cost:** $400

☐ Xebec 9710H
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 10 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 85 msec **Support equip:** Cables; Software; ROM **Units sold:** 40,000 since 1984 **Cost:** $695

☐ Xebec 9730T
5-1/4 inch PCDOS 3.0 compatible **Capacity:** 33.5 MB **Spindle(s):** 1 **Transfer rate:** 625 KB/sec **Access time:** 45 msec **Backup:** Cartridge tape, 74 MB **Support equip:** Software; ROM **Units sold:** 10,000 since 1984 **Cost:** $4,995

XIDEX CORP.

☐ Dysan FileCard
3-1/2 inch **Capacity:** 10 MB; 20 MB **Introduced:** 1986 **Cost:** $795; $895

☐ Dysan PortaFile
3-1/2 inch **Capacity:** 20 MB **Introduced:** 1986 **Cost:** $1,495

ZOBEX

☐ Hard Disk Subsystem (12.7 MB)
5-1/4 inch **Capacity:** 12.7 MB **Cost:** $1,295

☐ Hard Disk Subsystem (20 MB)
5-1/4 inch **Capacity:** 20 MB **Cost:** $1,595

FIXED

CREATIVE MICROSALES

☐ Creative Edge
Capacity: 10 MB Cost: $749

FALCON TECHNOLOGY

☐ PC eXTender
Reviewed Nov 1984 p. 52.
PCDOS 3.0 compatible Capacity: 10 MB-70 MB Transfer rate: 625 KB/sec Access time: 45 msec Backup: Diskette; Cartridge tape Support equip: Cables; Software; ROM Introduced: 1983 Cost: $995 (10 MB)

I2 INTERFACE, INC.

☐ *I2 ATQ21F*
Capacity: 21.4 MB Cost: $1,295
☐ I2 AT117F
Capacity: 117.5 MB Cost: $6,695
☐ I2 AT21H
Capacity: 21.4 MB Cost: $895
☐ I2 AT30F
Capacity: 31.9 MB Cost: $1,595
☐ I2 AT42H
Capacity: 42.2 MB Cost: $1,995
☐ *I2 AT71F*
Capacity: 71.3 MB Cost: $3,595
☐ I2 DB10H10T
Capacity: 10.6 MB Backup: Tape cartridge, 10.3 MB Cost: $1,495
☐ I2 DB22H10T
Capacity: 21.3 MB Backup: Tape cartridge, 10.3 MB Cost: $1,795
☐ I2 DB33H10T
Capacity: 33.3 MB Backup: Tape cartridge, 10.3 MB
☐ I2 DB42H10T
Capacity: 42.2 MB Backup: Tape cartridge, 10.3 MB Cost: $2,995
☐ I2 DS10H10T
Capacity: 10.6 MB Backup: Tape cartridge, 10.3 MB Cost: $2,195
☐ I2 DS22H10T
Capacity: 21.3 MB Backup: Tape cartridge, 10.3 MB Cost: $2,345
☐ I2 DS33H10T
Capacity: 31.9 MB Backup: Tape cartridge, 10.3 MB Cost: $2,995
☐ I2 DS42H10T
Capacity: 42.2 MB Cost: $3,595
☐ I2 DS45H45T
Capacity: 42.2 MB Backup: Tape cartridge, 45 MB Cost: $4,195

KAMERMAN LABS

☐ Megaflight 100
Reviewed Nov 1984 p. 52.
PCDOS 3.0 compatible Capacity: 10 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Support equip: Cables Units sold: 10,000 since 1984 Cost: $895
☐ Megaflight 200
PCDOS 3.0 compatible Capacity: 20 MB Spindle(s): 1 Transfer rate: 6 KB/sec Access time: 85 msec Support equip: Software Introduced: 1984 Cost: $1,495
☐ Megaflight 300
PCDOS 3.0 compatible Capacity: 30 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 85 msec Support equip: Software Introduced: 1984 Cost: $1,995

KUSTOM ELECTRONICS, INC.

Path Bank Division
☐ *Data Bank MS-30F/10R*
Capacity: 30 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 90 msec Backup: Removable cartridge, 10 MB Introduced: 1985 Cost: $2,795

LEGACY TECHNOLOGIES, LTD.

☐ Legacy III
PCDOS 3.0 compatible Capacity: 10 MB; 20 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 70 msec Support equip: Cables Introduced: 1984 Cost: $1,249-$1,595

SANTA CLARA SYSTEMS, INC.

☐ SCS-32/11
PCDOS 3.0 compatible Capacity: 32 MB Spindle(s): 4 Transfer rate: 625 KB/sec Access time: 70 msec Backup: Removable hard disk, 11 MB Support equip: Cables; Software Units sold: 1,500 since 1985 Cost: $4,295

TECMAR, INC.

☐ MassFile
PCDOS 3.0 compatible Capacity: 74 MB Spindle(s): 2 Transfer rate: 150 KB/sec Access time: 35 msec Backup: Streaming tape, 45 MB Support equip: Cables Introduced: 1984 Cost: $8,995

REMOVABLE

CREATIVE MICROSALES

☐ Creative Advantage
Capacity: 5 MB Cost: $995

DATA ZONE, INC.

☐ DATA BOX 10/20
PCDOS 3.0 compatible Capacity: 10 MB-20 MB Spindle(s): 2 Transfer rate: 625 KB/sec Access time: 80 msec Support equip: Cables; Software Units sold: 500 since 1985 Cost: $1,999-$3,299
☐ FlexiDRIVE
PCDOS 3.0 compatible Capacity: 10 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 80 msec Support equip: Cables; Software Units sold: 1,000 since 1985 Cost: $1,395-$3,299

DIGITAL ELECTRONIC SYSTEMS

☐ IRPC5-C1
PCDOS 3.0 compatible Capacity: 5 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 90 msec Support equip: Software Units sold: 200 since 1984 Cost: $1,795

EMULEX CORP.

☐ SABRE-ER2/I
PCDOS 3.0 compatible Capacity: 10.5 MB Spindle(s): 1 Transfer rate: 896 KB/sec Access time: 35 msec Support equip: Cables; Software Introduced: 1983 Cost: $4,050

INFAX, INC.

☐ Infax 201; 202; 203; 204
PCDOS 3.0 compatible Capacity: 20 MB Spindle(s): 1 Transfer rate: 1,130 KB/sec Access time: 35 msec Backup: Cartridge disk Support equip: Cables; Software; Interface card Introduced: 1983 Cost: $2,595-$3,995

IOMEGA CORP.

☐ The Bernoulli Box for IBM PC
Reviewed Apr 1986 p. 197.
Capacity: 10 MB; 20 MB Spindle(s): 1 or 2 Transfer rate: 1,130 KB/sec Access time: 35 msec Units sold: 25,000 since 1983 Cost: $2,695-$3,695

I2 INTERFACE, INC.

☐ I2 ATDMA10
Capacity: 10.3 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 93 msec Introduced: 1984 Cost: $1,795
☐ I2 AT117
Capacity: 117.5 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 30 msec Introduced: 1984 Cost: $6,900
☐ I2 AT21
Capacity: 21.1 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 77 msec Introduced: 1984 Cost: $1,395
☐ I2 AT32
Capacity: 32.1 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 40 msec Introduced: 1984 Cost: $1,995
☐ I2 AT52
Capacity: 52 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 30 msec Introduced: 1984 Cost: $3,850
☐ I2 DMA10
Capacity: 10.3 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 93 msec Introduced: 1984 Cost: $1,795

JADE COMPUTER PRODUCTS, INC.

☐ END-000427
PCDOS 3.0 compatible Capacity: 62 MB Spindle(s): 2 Units sold: 1,000 since 1980 Cost: $1,695

PHOENIX DIVERSIFIED INDUSTRIES, INC.

☐ Pyramid
Capacity: 10 MB-140 MB Backup: Streaming tape, 45 MB-60 MB Cost: $2,395

QIC RESEARCH, INC.

☐ QIC-02
Capacity: 20 MB Cost: $777

SYQUEST TECHNOLOGY

☐ SQ15
Capacity: 15 MB Introduced: 1986
☐ SQ15 X 15
Capacity: 30 MB Introduced: 1986

UNIVATION

☐ Slimline CS1010-2R
Capacity: 10 MB Introduced: 1986 Cost: $3,495

FIXED/REMOVABLE

COMPUTER DESIGNED SYSTEMS, INC.

Commercial Systems Division
☐ DD 300 Series
PCDOS 3.0 compatible Capacity: 220 MB Spindle(s): 1 Transfer rate: 460 KB/sec Access time: 17 msec Backup: Removable disk Units sold: 600 Cost: $30,000

DATA TECHNOLOGY CORP.

☐ 1300/RIO
PCDOS 3.0 compatible Capacity: 10 MB Spindle(s): 1 Transfer rate: 625 KB/sec Access time: 135 msec Backup: Cartridge, 10 MB Support equip: Cables Units sold: 500 Cost: $1,695

SOUTHERN DATA SYSTEMS, INC.

☐ Model 2290-120
Capacity: 120 MB Spindle(s): 1 Transfer rate: 1,024 KB/sec Access time: 27 msec Backup: Disk pack, 30 MB Support equip: Software; Interface card Introduced: 1986 Cost: $6,995
☐ Model 2290-134
Capacity: 134 MB Spindle(s): 1 Access time: 30 msec Support equip: Software; Interface card Units sold: 80 since 1984 Cost: $9,995
☐ Model 2290-201
Capacity: 201 MB Spindle(s): 2 Access time: 30 msec Backup: Disk pack, 67 MB Support equip: Software; Interface card Units sold: 80 since 1984 Cost: $15,995
☐ Model 2290-268
Capacity: 268 MB Spindle(s): 2 Access time: 30 msec Support equip: Software; Interface card Units sold: 80 since 1984 Cost: $15,995

SYQUEST TECHNOLOGY

☐ SQ15 X 45
Capacity: 60 MB Introduced: 1986

☐ SQ45 X 45
Capacity: 90 MB Introduced: 1986

UNIVATION

☐ Slimline CS2010R
Capacity: 10 MB-20 MB Introduced: 1981 Cost: $2,995

☐ Slimline CS3010R
Capacity: 10 MB-30 MB Introduced: 1981 Cost: $3,295

☐ Slimline CS4010R
Capacity: 10 MB-42.7 MB Introduced: 1981 Cost: $4,405

OPTICAL

AGA, INC.

☐ DISCUS 1000
Capacity: 1,024 MB Introduced: 1985 Cost: $21,500

ALCATEL THOMSON GIGADISC, INC.

(division of Thomson-CSF)

☐ GIGADISC Universal Drive
PCDOS 3.0 compatible Capacity: 1,000 MB Spindle(s): 1 Transfer rate: 30,840 KB/sec Access time: 27 msec Units sold: 700 since 1984 Cost: $15,000

FRANKLIN TELECOM

☐ FLD 200
Capacity: 200 MB Introduced: 1986

INFORMATION STORAGE INC.

☐ WC 525
PCDOS 3.0 compatible Capacity: 115 MB-230 MB Spindle(s): 1 Transfer rate: 312.5 KB/sec Access time: 135 msec Support equip: Cables; Software Introduced: 1985

NATIONAL MEMORY SYSTEMS CORP.

SEE AD ON PAGE 117

☐ PC-007
PCDOS 3.0 compatible Capacity: 25 MB-1,000 MB Spindle(s): 1 Transfer rate: 2,048 KB/sec Access time: 17 msec Backup: Magnetic tape Support equip: Cables; Software Units sold: 100 since 1984

OPTOTECH, INC.

☐ Model 5984
PCDOS 3.0 compatible Capacity: 400 MB Spindle(s): 1 Transfer rate: 275 KB/sec Access time: 220 msec Support equip: Software Introduced: 1985 Cost: $975-$3,400

RAC INFORMATION SYSTEMS, INC.

☐ Gigastore
PCDOS 3.0 compatible Capacity: 16,384 MB Spindle(s): 12 Transfer rate: 2,048 KB/sec Access time: 18 msec Backup: Direct access tape, 500 MB Units sold: 2 since 1985 Cost: $100,000; Lease (mo.) —$10,000

REFERENCE TECHNOLOGY, INC.

☐ DataDrive Series 2000
Capacity: 1,000 MB Spindle(s): 1 Transfer rate: 150 KB/sec Access time: 150 msec Support equip: Cables; Software; Interface card Introduced: 1984 Cost: $15,900

TALLGRASS TECHNOLOGIES CORP.

SEE AD ON PAGE 137

☐ LS-250; LS-450; LS-200E; LS-200I
Capacity: 200 MB Introduced: 1986

UNITED SYSTEMS CO.

☐ Spark PC-2050L
PCDOS 3.0 compatible Capacity: 2,040 MB Spindle(s): 2 Transfer rate: 1,200 KB/sec Access time: 35 msec Backup: Removable cartridge, 20 MB Support equip: Cables; Software Cost: $30,000

CD-ROM

HITACHI AMERICA, LTD.

OEM Monitor Division

☐ CD-ROM
Capacity: 552 MB Transfer rate: 176 KB/sec Access time: 0.5 msec Introduced: 1985

KNOWLEDGESET

☐ Romulus
Capacity: 540 MB Introduced: 1986 Cost: $849

PANASONIC INDUSTRIAL CO.

☐ SQ-D1
Capacity: 540 MB Introduced: 1986 Cost: $1,495

☐ SQ-D101
Capacity: 540 MB Introduced: 1986 Cost: $1,795

PHILIPS SUBSYSTEMS AND PERIPHERALS, INC.

☐ CM100/CM110
PCDOS 3.0 compatible Capacity: 600 MB Spindle(s): 1 Transfer rate: 176.25 KB/sec Support equip: Software Introduced: 1985 Cost: $500 (qty. 1,000)

PORTABLE SOLUTIONS, INC.

☐ BP-100+
PCDOS 3.0 compatible Capacity: 115 MB Spindle(s): 1 Transfer rate: 2,500 KB/sec Access time: 200 msec Support equip: Software Units sold: 101 since 1985 Cost: $4,495

REFERENCE TECHNOLOGY, INC.

☐ DataDrive Series 500
Capacity: 550 MB Spindle(s): 1 Transfer rate: 150 KB/sec Access time: 900 msec Support equip: Cables; Software; Interface card Introduced: 1985 Cost: $1,535

TAPE DRIVES

REEL-TO-REEL

ACKNOWLEDGE, INC.

☐ AN-9000-PC
Streamer Tracks: 9 Density: 800 bpi; 1,600 bpi; 3,200 bpi Read speed: 25 ips Rewind speed: 100 ips Tape width: ½ in. Support equip: Cables; Software Introduced: 1984 Cost: $6,995-$8,995

☐ AN-9800-PC
Streamer Tracks: 9 Density: 1,600 bpi Read speed: 25 ips Rewind speed: 100 ips Tape width: ½ in. Cost: $4,995-$5,995

AFTEK BUSINESS MACHINES, INC.

☐ DataSafe
Streamer Read speed: 36 ips Rewind speed: 90 ips Tape width: ¼ in. Units sold: 450 since 1985 Cost: $749-$999

ALLOY COMPUTER PRODUCTS, INC.

SEE AD ON PAGE 129

☐ PC-9 Track
Tracks: 9 Density: 1,600 bpi Read speed: 25 ips Tape width: ½ in. Support equip: Cables; Software Units sold: 10,000 since 1983 Cost: $6,595

ANRITSU AMERICA, INC.

☐ DMT-2500 Series
Streamer Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 25 ips; 100 ips Rewind speed: 160 ips Tape width: ½ in. Units sold: 50 since 1985 Cost: $4,599

☐ DMT-3000 Series
Streamer Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 45 ips; 37.5 ips Rewind speed: 160 ips Tape width: ½ in. Units sold: 101 since 1982 Cost: $5,599

CATAMOUNT CORP.

SEE AD ON PAGE 130

☐ PCT-9G
Streamer Tracks: 9 Density: 6,250 bpi; 1600/3200 bpi Read speed: 75 ips Rewind speed: 200 ips Tape width: ½ in. Support equip: Cables; Software Cost: $10,600

☐ PCT-9L
Streamer Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 50 ips Rewind speed: 200 ips Tape width: ½ in. Support equip: Cables; Software Cost: $3,495

☐ PCT-9LS
Streamer Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 50 ips Rewind speed: 200 ips Tape width: ½ in. Support equip: Cables; Software Cost: $3,395

☐ PCT-9N
Streamer Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 45 ips; 100 ips Rewind speed: 200 ips Tape width: ½ in. Support equip: Cables; Software Cost: $6,870

ALLOY COMPUTER PRODUCTS, INC.
100 Pennsylvania Avenue
Framingham, MA 01701
Tel.: (617) 875-6100
TWX: 710-346-0394
FAX: (617) 872-5729

Alloy designs, manufacturers, and markets high-quality, multi-user, and mass data storage products. PC-PLUS multi-user system offers a cost-effective alternative to LANs. Mass storage products include hard disk and tape backup subsystems as well as OEM tape drives.

OVERLAND DATA, INC.
5644 Kearny Mesa Road
San Diego, CA 92111
(619) 571-5555
Telex: 754923 OVERLAND

Tape Linx 9 Track Tape Subsystem for the IBM PC/XT/AT & compatibles. The Micro to Mainframe Connection includes:

Tape Drive, Tape Coupler Card, MS-DOS Support, XENIX Support, User Manual, Cables & Power Cord. Software includes: FLASHBAX (high-speed backup), DEPOT 3 (data interchange), BTEST, FDUMP.

Alloy... We're Writing the Future of Multi-User PCs

PC-PLUS — The Fastest Growing Multi-user PC Solution



1984

Alloy introduces PC-PLUS — a revolutionary multiuser, multiprocessor architecture for PCs. Amidst the confusion of LANs and time-sharing approaches, RTNX and PC-SLAVE/16 provides a unique, high-performance solution. What LANs promised, PC-PLUS delivered. Faster. Easier to install and use. Less Expensive.

1985

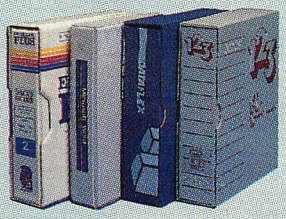
ATNX with its lightning-fast disk caching supports AT-class machines. File and record locking — plus controls to manage file access. Disk volumes greater than 32 Mb. DOS 3.X machines can reach the peak of multiuser performance.

1986

NTNX and PCST/G graphics terminal continue the tradition. NTNX lets PC-PLUS run multiuser applications written for Novell NetWare and MS-NET. PCST/G brings high-resolution, Hercules-compatible graphics to PC-PLUS workstations.

AND BEYOND

We've written the history of multiuser PCs, and we're writing the future . . . with PC-compatible multiuser systems.



The LAN Alternative

PC-PLUS . . . the perfect solution for sharing data among users. The 8MHz SLAVE/16 card operates at over twice the speed of typical PCs. Advanced bank-switched memory delivers data at bus speed. Many times faster than LANs. Engineering ingenuity makes PC-PLUS simpler and much easier to install than LANs or UNIX multiuser systems. While sharing disks, printers and other peripherals with single-user ease of operation.

The Optimum IBM Multi-user Solution . . . Made Possible by Alloy

The PC-PLUS family turns your single IBM personal computer or compatible into a fully integrated office solution. Up to 31 users can be added to the host — while maintaining full functionality of the PC. As needs grow, add more PC-SLAVE/16 cards and low-cost terminals.

The Choice of Vertical Market Resellers

PC-PLUS expands as business grows. In any vertical market. Law. Finance. Medicine. POS. Real Estate. And more. That's why PC-PLUS is the fastest-growing multiuser solution among vertical market resellers. Today with a strong commitment to tomorrow.

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NetWare is a trademark of Novell, Inc.
MS-NET is a trademark of MicroSoft, Corp.
UNIX is a trademark of AT&T Information Systems.

The PC-PLUS is available from:

Crystal Computers, Inc.
Lenaxa, KS 66214
(913) 541-1711
Irving, TX 75063
(214) 929-1300

FA Components
Elmhurst, NY 11373
(718) 507-1444
Ft. Wayne, IN 46808
(219) 432-8540
Greenville, SC 29607
(803) 288-2422

First Source Distributing
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(801) 973-0074

Micro Computer Distributors, Inc.
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(714) 895-5841

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Northbrook, IL 60002
(312) 298-1400

PGI Corporation
Tempe, AZ 85281
(602) 967-1421

Super Source
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(404) 441-3451

Vitek
San Marcos, CA 92069
(619) 744-8305
San Jose, CA 95131
(408) 436-8026

Vitronix Corporation
Westboro, MA 01581
(617) 366-1144

W4 Micro Distributors
Birmingham, AL 35209
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Western Micro Systems
Scottsdale, AZ 85260
(602) 948-4240
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(415) 964-2050
Northridge, CA 91324
(818) 700-9922
Redmond, WA 98052
(206) 881-6737

ALLOY
Computer Products, Inc.

Alloy Computer Products, Inc., 100 Pennsylvania Avenue, Framingham, Massachusetts 01701. (617) 875-6100, TWX: 710-346-0394
Alloy Computer Products, Inc., 9 Executive Circle, Suite 240, Irvine, California 92714. (714) 261-7661
In Europe: Alloy Computer Products (Europe) Ltd., Cirencester, Gloucestershire, England. Tel. 0285-69571, Tlx: 43340
In Australia: Alloy Australia Pty. Ltd., 5 Enterprise Court, Mulgrave, Victoria, Australia 3170. Tel. 011-613-561-4988

CIRCLE NO. 268 ON READERS SERVICE CARD

☐ PCT-9S
Reviewed Aug 1986 p. 95.
Streamer Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 25 ips; 100 ips Rewind speed: 200 ips Tape width: ½ in. Support equip: Cables; Software Cost: $4,950

CIPHER DATA PRODUCTS, INC.

☐ Series 9000
Reviewed Aug 1986 p. 95.
Streamer Tracks: 9 Density: 1,600 bpi; 6,250 bpi; 3,200 bpi Read speed: 25 ips; 100 ips; 125 ips; 50 ips; 140 ips Rewind speed: 175-225 ips Tape width: ½ in. Support equip: Software Introduced: 1985 Cost: $5,995-10,995

DIGI-DATA CORP.

☐ Model 2000 PC
Streamer Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 25 ips; 100 ips; 50 ips Rewind speed: 200 ips Tape width: ½ in. Support equip: Software Units sold: 600 since 1983 Cost: $2,-850-$3,250

☐ Series 1140
Tracks: 7; 9 Density: 200 bpi; 556 bpi; 800 bpi; 1,600 bpi Read speed: 25 ips; 12.5 ips; 18.75 ips Rewind speed: 75 ips Tape width: ½ in. Support equip: Software Units sold: 1,575 since 1978 Cost: $2,900-$3,100

☐ Series 1640
Tracks: 7; 9 Density: 200 bpi; 556 bpi; 800 bpi; 1,600 bpi Read speed: 25 ips; 12.5 ips; 18.75 ips; 37.5 ips Rewind speed: 100 ips Tape width: ½ in. Support equip: Software Units sold: 1,450 since 1978 Cost: $3,150-$3,350

☐ Series 1740
Tracks: 7; 9 Density: 200 bpi; 556 bpi; 800 bpi; 1,600 bpi Read speed: 25 ips; 45 ips; 12.5 ips; 18.75 ips; 37.5 ips Rewind speed: 150 ips Tape width: ½ in. Support equip: Software Units sold: 9,400 since 1978 Cost: $3,575-$3,675

☐ Series 1840
Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 75 ips Rewind speed: 150 ips Tape width: ½ in. Support equip: Software Units sold: 700 since 1978 Cost: $4,575-$4,775

ELECTROVALUE INDUSTRIAL, INC.

☐ IBM PC 9-Track
Tracks: 9 Density: 800 bpi Read speed: 12.5 to 125 ips Rewind speed: 200 ips Tape width: ½ in. Support equip: Software; Cables Introduced: 1985 Cost: $1,500-$3,000

EMERALD SYSTEMS CORP.

☐ MTM 80-7000
Reviewed Aug 1986 p. 95.
Streamer Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 25 ips; 100 ips Rewind speed: 100 ips Tape width: ½ in. Support equip: Software Units sold: 500 since 1984 Cost: $7,250

☐ MTM 80-8000
Streamer Tracks: 9 (serpentine) Density: 1,600 bpi; 3,200 bpi Read speed: 50 ips Rewind speed: 100 ips Tape width: ½ in. Units sold: 200 since 1985 Cost: $4,950

IBEX COMPUTER CORP.

☐ PCT-1000
Streamer Tracks: 9 Density: 800 bpi; 1,600 bpi; 3,200 bpi Read speed: 25 ips; 100 ips; 50 ips Rewind speed: 200 ips Tape width: ½ in. Units sold: 30 since 1984 Cost: $3,557

INNOVATIVE DATA TECHNOLOGY

☐ TD-1012
Streamer Tracks: 9 Density: 1,600 bpi Read speed: 100 ips; 12.5 ips Rewind speed: 200 ips Tape width: ½ in. Units sold: 495 since 1982 Cost: $3,250

☐ TD-1012/PC
Streamer Tracks: 9 Density: 1,600 bpi Read speed: 100 ips; 12.5 ips Rewind speed: 200 ips Tape width: ½ in. Support equip: Cables; Software; Interface board Units sold: 475 since 1982 Cost: $3,995

☐ TD-1012/SCSI
Streamer Tracks: 9 Density: 1,600 bpi Read speed: 100 ips; 12.5 ips Rewind speed: 200 ips Tape width: ½ in. Support equip: Cables; Software Units sold: 20 since 1984 Cost: $6,495

☐ TD-1053 Formatted
Tracks: 7/9 Density: 200 bpi; 556 bpi; 800 bpi; 1,600 bpi Read speed: 25 ips; 45 ips; 37.5 ips; 18.75 ips; 12.5 ips Rewind speed: 200 ips Tape width: ½ in. Units sold: 5,100 since 1977 Cost: $6,350

☐ TD-1053/PC; TD-1054/PC
Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 45 ips Rewind speed: 200 ips Tape width: ½ in. Support equip: Cables; Software; Interface board Units sold: 575 since 1982 Cost: $6,-995-$7,045

☐ TD-1053/SCDR; TD-1054/SCDR
Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 45 ips Rewind speed: 200 ips Tape width: ½ in. Units sold: 440 since 1979 Cost: $6,995-$7,045

☐ TD-1053/SCSI; TD-1054/SCSI
Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 45 ips Rewind speed: 200 ips Tape width: ½ in. Support equip: Cables; Software Units sold: 125 since 1984 Cost: $7,495-$7,545

☐ TD-1054
Tracks: 7/9 Density: 200 bpi; 556 bpi; 800 bpi; 1,600 bpi Read speed: 45 ips Rewind speed: 200 ips Tape width: ½ in. Units sold: 5,500 since 1977 Cost: $6,300

PC ⇔ MAINFRAME
VIA 9-TRACK TAPE

For Information Interchange – Backup – Archival Storage

IBM format compatible 9-track, ½ inch magnetic tape is the universally accepted media for mainframes and minicomputers. Catamount offers *Low Cost, Lightweight* 9-track Tape Subsystems for the IBM-PC/XT/AT computers which allow:

- Reading tapes generated on mainframes and minicomputers.
- Writing tapes to be read on mainframes and minis.
- ASCII, EBCDIC and Binary tapes accommodated.
- 800 bpi NRZI, 1600/3200 bpi PE, and 6250 bpi GCR format systems available.
- Storage capacities up to 270 MB on a single reel.

Systems come complete with comprehensive DOS command syntax oriented software and an Installable Device Driver. For OEM applications, the tape controller is available separately.

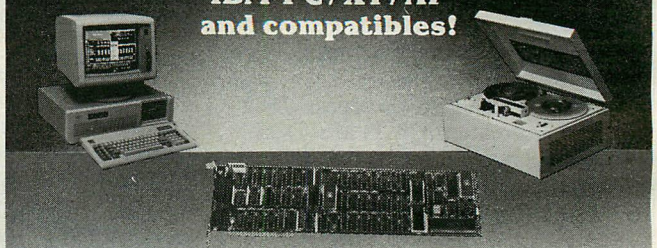


CATAMOUNT CORPORATION
2243 Agate Court
Simi Valley, CA 93065-1898
(805) 584-2233
FAX: 805-584-0941

CIRCLE NO. 111 ON READERS SERVICE CARD

The ultimate solution for information interchange . . .

The ultimate 9-Track magnetic tape subsystem for the IBM-PC/XT/AT and compatibles!



With IDT's 9-track tape drive and a "LEO" tape controller, you'll be able to share your mainframe data with your PC.

Designed with data interchange in mind, "LEO" comes with two device drivers, diagnostics, and a variety of software utilities, including:

- **ANSI**, a file transfer utility for IBM/ANSI labeled tapes—
- **TAP**, a fast back-up and restore utility—
- **TCMD**, for inspecting unknown tape data and formats.

"LEO" is a second generation state-of-the-art PC tape controller that comes with an impressive list of features:

- Dedicated microprocessor to manage the tape drive.
- On-board rams offering dual 8K buffers (opt. 32K).
- Memory mapping I/O, with no DMA channel required.
- ASCII to EBCDIC code converter prom standard.
- External cable connectors for easy cabling.

INNOVATIVE DATA TECHNOLOGY
5340 Eastgate Mall • San Diego, CA 92121
(619) 587-0555 • TWX: (910) 335-1610
Regional Offices:
Eastern: (609) 596-4538
Western: (714) 968-8082

CIRCLE NO. 301 ON READERS SERVICE CARD

☐ TD-1753 Daisy Chain; TD-1754 Standalone
Tracks: 7/9 Density: 200 bpi; 556 bpi; 800 bpi; 1,600 bpi Read speed: 75 ips Rewind speed: 400 ips Tape width: ½ in. Support equip: Cables; Software; Interface board Units sold: 10 since 1983 Cost: $7,950-$8,000

☐ TD-1753/PC; TD-1754/PC
Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 75 ips Rewind speed: 400 ips Tape width: ½ in. Support equip: Cables; Software; Interface board Units sold: 6 since 1983 Cost: $8,450-$8,500

☐ TD-1753/SCSI; TD-1754/SCSI
Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 75 ips Rewind speed: 400 ips Tape width: ½ in. Support equip: Cables; Software Units sold: 6 since 1984 Cost: $8,500-$8,550

INTERDYNE CO.

☐ ID 1010
Streamer Density: 7,300 bpi Read speed: 36 ips Rewind speed: 72 ips Tape width: ¼ in. Support equip: Cables; Software Introduced: 1984 Cost: $450

☐ ID 1020
Streamer Density: 7,300 bpi Read speed: 36 ips Rewind speed: 72 ips Tape width: ¼ in. Support equip: Cables; Software Introduced: 1985 Cost: $600

INTERFACE DATA, INC.

☐ Series 5-89
Tracks: 9 Density: 1,600 bpi; 800 bpi Read speed: 12.5 ips Rewind speed: 100 ips Tape width: ½ in. Support equip: ROM Units sold: 35 since 1982 Cost: $6,800 (PC); $13,995

☐ Series 5-98
Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 12.5 ips Rewind speed: 100 ips Tape width: ½ in. Support equip: ROM Units sold: 50 since 1984 Cost: $4,255 (PC); $8,995

☐ Series 5-99
Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 12.5 ips Rewind speed: 100 ips Tape width: ½ in. Support equip: ROM Units sold: 100 since 1982 Cost: $5,325 (PC); $10,795 (S/34, S/36)

KENNEDY CO.
(an Allegheny International Co.)

☐ Model 9000
Tracks: 7/9 Density: 200 bpi; 556 bpi; 800 bpi; 1,600 bpi Read speed: 45 ips Rewind speed: 150 ips Units sold: 30,000 since 1972 Cost: $5,100-$7,200

☐ Model 9100
Tracks: 9; 7 (NRZI only) Density: 800 bpi; 1,600 bpi Read speed: 75 ips Rewind speed: 300 ips Tape width: ½ in. Units sold: 25,000 since 1974 Cost: $6,500-$8,600

☐ Model 9300
Tracks: 9; 7 (NRZI only) Density: 800 bpi; 1,600 bpi Read speed: 125 ips Rewind speed: 300 ips Tape width: ½ in. Units sold: 15,000 since 1976 Cost: $7,550-$9,650

INNOVATIVE DATA TECHNOLOGY
5340 Eastgate Mall
San Diego, CA 92121
(619) 587-0555
TWX: (910) 335-1610

Manufacturer of 9-track tape drives and subsystems including the IDT LEO PC/XT/AT second generation tape controller. LEO is the result of IDT's experience as the first to offer 9-track magnetic tape for the PC. LEO offers easy installation and system generation complete with technical documentation and software utilities and IDT provides you total hardware and software support from one manufacturer.

☐ Model 9400
Tracks: 9 Density: 800 bpi; 1,600 bpi; 6,250 bpi Read speed: 75 ips (NRZI, PE); 45 ips (GCR) Rewind speed: 500 ips Tape width: ½ in. Units sold: 1,200 since 1983 Cost: $12,000

☐ Model 9600
Streamer Tracks: 9 Density: 800 bpi; 1,600 bpi; 3,200 bpi Read speed: 100 ips; 45 ips Rewind speed: 200 ips Tape width: ½ in. Units sold: 600 since 1985 Cost: $5,300

☐ Model 9700
Tracks: 9; 7 (NRZI only) Density: 800 bpi; 1,600 bpi Read speed: 25 ips; 12.5 ips Rewind speed: 150 ips Tape width: ½ in. Units sold: 28,000 since 1972 Cost: $4,050-$6,150

☐ Model 9800
Tracks: 9; 7 (NRZI only) Density: 800 bpi; 1,600 bpi Read speed: 25 ips; 12.5 ips Rewind speed: 150 ips Tape width: ½ in. Units sold: 20,000 since 1974 Cost: $4,500-$6,275

LANCORE TECHNOLOGIES, INC.

☐ Reel-Core 10
Streamer Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 25 ips; 50 ips Rewind speed: 60 ips Tape width: ½ in. Support equip: Cables; Software Cost: $4,995

☐ Reel-Core 7
Streamer Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 25 ips; 50 ips Rewind speed: 60 ips Tape width: ½ in. Support equip: Cables; Software Cost: $4,495

MITRON SYSTEMS CORP.

☐ STD-1600
Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 25 ips Rewind speed: 75 ips Tape width: ½ in. Support equip: Cables Introduced: 1980 Cost: $11,750-$13,250; Lease (mo.) —$334-$476

QUALSTAR CORP.

☐ MINISTREAMER Model 1054
Streamer Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 25 ips; 50 ips Tape width: ½ in. Units sold: 600 since 1985 Cost: $3,755

☐ Model 1052
Streamer Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 50 ips Rewind speed: 100 ips Tape width: ½ in. Support equip: Cables; Software; Interface board Units sold: 500 since 1985 Cost: $2,875

☐ Model 701
Streamer Tracks: 9 Density: 1,600 bpi; 3,200 bpi Read speed: 50 ips Rewind speed: 100 ips Tape width: ½ in. Support equip: Cables; Software; Interface board Units sold: 100 since 1985 Cost: $2,675

ROCKY MOUNTAIN TRADING CO.
Systems Division

☐ Porta-Tape
Streamer Tracks: 4 Density: 6,800 bpi Read speed: 35 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables; Software Units sold: 50 since 1985 Cost: $795-$995

ROSSCOMP CORP.

☐ Model D5160
Streamer Tracks: 7/9; 24 (serpentine) Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips ips Tape width: ½ in. Support equip: Software Units sold: 1,000 since 1984 Cost: $1,415

TELEBYTE TECHNOLOGY, INC.
TDX Peripherals Division

☐ TDX-1000
Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 45 ips Rewind speed: 180 ips Tape width: ½ in. Support equip: Cables; Software; Interface card Introduced: 1984 Cost: $6,000

☐ TDX-45
Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 45 ips Rewind speed: 160 ips Tape width: ½ in. Support equip: Cables; Software; Interface card Units sold: 500 since 1983 Cost: $4,-995

☐ TDX-75
Tracks: 9 Density: 800 bpi; 1,600 bpi Read speed: 75 ips Rewind speed: 300 ips Tape width: ½ in. Units sold: 1,500 since 1972 Cost: $9,100

☐ TDX-75 (NRZ)
Tracks: 9 Density: 800 bpi Read speed: 75 ips Rewind speed: 300 ips Tape width: ½ in. Support equip: Cables; Software; Interface card Units sold: 1,800 since 1972 Cost: $5,020-$8,125

☐ TDX-75/RS-232C
Tracks: 9 Density: 1,600 bpi Read speed: 75 ips Rewind speed: 300 ips Tape width: ½ in. Support equip: Cables; Interface card Units sold: 1,500 since 1972 Cost: $5,020-$8,400

CARTRIDGE

ACKNOWLEDGE, INC.

☐ AT-1600; 1601-PC
Tracks: 4 Density: 6,400 bpi Read speed: 30 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables; Software Introduced: 1984 Cost: $2,495

☐ AT-4000-XPC; A-Frame-40
Tracks: 9 Read speed: 60 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables; Software Introduced: 1986 Cost: $795; $895

☐ AT-6000-XPC
Tracks: 9 Read speed: 39 ips Rewind speed: 78 ips Tape width: ¼ in. Support equip: Cables; Software Introduced: 1986 Cost: $995 (IBM); $1,595 (Wang)

ADIC (ADVANCED DIGITAL INFORMATION CORP.)

☐ Advanced Data Library
Tracks: 32 Density: 10,000 bpi Read speed: 120 ips Rewind speed: 120 ips Tape width: ¼ in. Introduced: 1985 Cost: $3,-900-$5,900

☐ Data Library
Tracks: 16 Density: 10,000 bpi Read speed: 60 ips Rewind speed: 90 ips Tape width: ¼ in. Introduced: 1983 Cost: $2,900-$5,400

☐ TD440
Tracks: 24 (serpentine) Density: 10,000 bpi Read speed: 60 ips Rewind speed: 90 ips Tape width: ¼ in. Introduced: 1986 Cost: $1,490

ALGO, INC.

☐ Model 1200i
Tracks: 4 Density: 1,600 bpi Read speed: 30 ips Rewind speed: 80 ips Tape width: ¼ in. Units sold: 500 since 1982 Cost: $2,-345

☐ Model 1200s
Tracks: 4 Density: 1,600 bpi Read speed: 30 ips Rewind speed: 90 ips Tape width: ¼ in. Units sold: 1,200 since 1981 Cost: $2,245

☐ Model 1600
Tracks: 4 Density: 6,400 bpi Read speed: 30 ips Rewind speed: 90 ips Tape width: ¼ in. Introduced: 1985 Cost: $2,995

ALLOY COMPUTER PRODUCTS, INC.
SEE AD ON PAGE 129

☐ FT-60
Tracks: 12 Read speed: 39 ips Tape width: ¼ in. Support equip: Cables; Software Introduced: 1985 Cost: $995

☐ PC-Backup
Tracks: 4 Density: 6,400 bpi Read speed: 30 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables; Software Units sold: 10,000 since 1983 Cost: $2,195

☐ PC-QICTAPE
Reviewed Nov 1985 p. 62.
Streamer Tracks: 9 Density: 10,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables; Software Units sold: 10,000 since 1983 Cost: $2,295

ALPHA OMEGA COMPUTER PRODUCTS, INC.

☐ Turbo Tape
Streamer Tracks: 9 Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Software Introduced: 1985 Cost: $795

ANALOG AND DIGITAL PERIPHERALS, INC. (ADPI)

☐ DC 100
Tracks: 4 Density: 800 bpi; 1,600 bpi Read speed: 30 ips Rewind speed: 90 ips Tape width: ¼ in. Introduced: 1983 Cost: $895

☐ Feed Back 340/344
Tracks: 4 Density: 1,600 bpi; 6,400 bpi Read speed: 30 ips Rewind speed: 90 ips Tape width: ¼ in. Introduced: 1983 Cost: $2,150-$2,495

ANRITSU AMERICA, INC.

☐ DMT-730 Series
Streamer Tracks: 8 Density: 7,700 bpi Read speed: 30 ips; 90 ips Tape width: ¼ in. Units sold: 20 since 1985 Cost: $1,579-$1,899

ANTEX DATA SYSTEMS (ADS)

(division of International Antex, Inc.)

☐ Model 8218
Streamer Tracks: 9 Density: 8,000 bpi Read speed: 90 ips Support equip: Cables Units sold: 300 since 1984 Cost: $1,100

ARCHIVE CORP.

☐ Fastape 20/Fastape 60
Streamer Tracks: 4 (serpentine); 9 (serpentine) Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Units sold: 3,000 since 1984 Cost: $625-$705

☐ Scorpion 5920
Streamer Tracks: 4 (serpentine) Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Software Units sold: 100,000 since 1983 Cost: $758

☐ Scorpion 5945
Streamer Tracks: 9 (serpentine) Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Software Units sold: 100,000 since 1983 Cost: $778

BRAEMAR CORP.

☐ QicBac Mini Data Cartridge Drive
Tracks: 24 Read speed: 75 ips Tape width: ¼ in. Introduced: 1986

CIPHER DATA PRODUCTS, INC.

☐ Model 5210
Tracks: 6 (serpentine) Density: 6,400 bpi Read speed: 78 ips Tape width: ¼ in. Support equip: Software Introduced: 1984 Cost: $1,095

☐ Model 526
Tracks: 6 (serpentine) Density: 6,400 bpi Read speed: 78 ips Tape width: ¼ in. Support equip: Software Introduced: 1984 Cost: $480 (qty. 1,000)

☐ Series 525
Tracks: 6 (serpentine) Density: 6,400 bpi Read speed: 78 ips Tape width: ¼ in. Introduced: 1983 Cost: $390 (qty. 1,000)

COLORADO MEMORY SYSTEMS, INC.

☐ Q60AT
Streamer Tracks: 9 Read speed: 90 ips Introduced: 1985 Cost: $1,695

☐ Q60H
Streamer Tracks: 9 Read speed: 90 ips Introduced: 1985 Cost: $2,144

CORVUS SYSTEMS, INC.

☐ The Bank
Tracks: 100 Density: 4,260 bpi Read speed: 216 ips Tape width: ½ in. Support equip: Software Introduced: 1983 Cost: $2,195

DIGI-DATA CORP.

☐ Model 70 PC
Tracks: 4 Density: 6,400 bpi Read speed: 30 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Software Units sold: 225 since 1984 Cost: $1,495

☐ Series 70
Tracks: 4 Density: 6,400 bpi; 8,333 bpi Read speed: 30 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Software Units sold: 700 since 1983 Cost: $1,495-$2,790

DIGITAL STORAGE SYSTEMS, INC.

☐ ARC 9060 Continuous Backup
Streamer Tracks: 9 (serpentine) Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables; Software; Host Adapter; Real-time backup Introduced: 1986 Cost: $2,595

EMERALD SYSTEMS CORP.

☐ DOS 60-2002
Streamer Tracks: 9 (serpentine) Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Units sold: 2,000 since 1984 Cost: $1,770

☐ DOS 60-9000
Streamer Tracks: 9 (serpentine) Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Units sold: 3,000 since 1984 Cost: $2,130

EVEREX SYSTEMS, INC.

☐ Excel Stream-60
Streamer Tracks: 9 Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables; Software Units sold: 5,000 since 1984 Cost: $1,195

GENIE TECHNOLOGIES CORP.

☐ Genie Jetstreamers
Streamer Tracks: 9 Density: 8,000 bpi Read speed: 90 ips Tape width: ¼ in. Introduced: 1984 Cost: $1,795

GREATWEST TECHNOLOGY, LTD.

SYSDYNE Products Division

☐ TBE 10
Tracks: 8 (serpentine) Read speed: 39 ips Rewind speed: 70 ips Support equip: Software

INTERNATIONAL TECHNOLOGY CORP.

☐ ITC Q60AT-T (Tempest)
Streamer Tracks: 9; (serpentine) Density: 8,192 bps Read speed: 90 ips Tape width: ¼ in. Units sold: 500 since 1986 Cost: $2,058

IRWIN MAGNETIC SYSTEMS, INC.

SEE AD ON PAGES 134/135

☐ Model 110
Streamer Tracks: 8 (serpentine) Density: 6,400 bpi Read speed: 39 ips Rewind speed: 70 ips Tape width: 0.15 in. Units sold: 20,000 since 1984 Cost: $500

☐ Model 125
Streamer Tracks: 12 (serpentine) Density: 10,000 bpi Read speed: 50 ips Rewind speed: 70 ips Tape width: 0.15 in. Introduced: 1985

☐ Model 210
Streamer Tracks: 8 (serpentine) Density: 6,400 bpi Read speed: 39 ips Rewind speed: 70 ips Tape width: 0.15 in. Units sold: 400 since 1984 Cost: $500

☐ Model 310
Streamer Tracks: 8 (serpentine) Density: 6,400 bpi Read speed: 39 ips Rewind speed: 70 ips Tape width: 0.15 in. Units sold: 100 since 1985 Cost: $995

I2 INTERFACE, INC.

☐ I2 TAP10
Tracks: 8 Density: 6,400 bpi Read speed: 39 ips Rewind speed: 70 ips Units sold: 1,000 since 1983 Cost: $1,045

KAMERMAN LABS

☐ Cartridge Tape 45/60 MB
Streamer Tracks: 9 Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Support equip: Software Introduced: 1984 Cost: $1,495

KENNEDY CO.

(an Allegheny International Co.)

☐ Model 6455
Tracks: 4 Density: 6,400 bpi Read speed: 30 ips Rewind speed: 90 ips Tape width: ¼ in. Units sold: 12,000 since 1981 Cost: $1,530

☐ Model 6470
Tracks: 10 Density: 6,400 bpi Read speed: 37.5 ips Rewind speed: 90 ips Tape width: ¼ in. Units sold: 5,000 since 1983 Cost: $1,700

MAGNA COMPUTER CORP.

☐ Spirit
Streamer Tracks: 8 (serpentine) Density: 6,400 bpi Read speed: 39 ips Rewind speed: 70 ips Support equip: ROM Introduced: 1985 Cost: $895-$1,195

MAYNARD ELECTRONICS

☐ MaynStream (20 MB)
Streamer Tracks: 9; 4 Density: 8,000 bpi Read speed: 45 ips; 125 ips Rewind speed: 45 ips Tape width: ¼ in. Support equip: Cables; Software Introduced: 1984 Cost: $1,595

☐ MaynStream (60 MB)
Reviewed Nov 1985 p. 62.
Tracks: 9; 4 Density: 8,000 bpi Read speed: 45 ips; 125 ips Support equip: Cables; Software Cost: $2,095

MOUNTAIN COMPUTER, INC.

☐ AT-FileSafe/Mini-Mountain-AT
Streamer Tracks: 9; 4 Density: 10,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables Units sold: 4,500 since 1984 Cost: $1,695

☐ FileSafe
Reviewed Dec 1984 p. 150; Nov 1985 p. 62.
Streamer Tracks: 4 or 9 (serpentine) Density: 8,000 bpi Read speed: 30 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables Units sold: 5,200 since 1983 Cost: $1,695-$1,995

NATIONAL MEMORY SYSTEMS CORP.

SEE AD ON PAGE 117

☐ PC-25
Streamer Tracks: 9 Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Introduced: 1985 Cost: $2,300

NORTH ATLANTIC INDUSTRIES

Peripheral Products Division

☐ RoadRunner
Streamer Tracks: 9 Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Units sold: 100 since 1985 Cost: $500 (qty. 500)

First new ¼ inch cartridge since 1971

Cartrex introduces the first, brand-new, ¼-inch tape cartridge technology in over 15 years for some fundamental technical reasons. . .

. . .and today's tape drive need for 400% increase in tape speed, 500% increase in track density, 1000% increase in bit densities, and 3000% increase in bits/second, are just a few. Read on to get the complete story.

Why a new cartridge

With the significant increases in tape drive capacity, system reliability demands a tighter tolerance cartridge. Most tape drive users aren't aware that all of the tensioning, tolerance, and data reliability issues are virtually all a function of the tape cartridge.

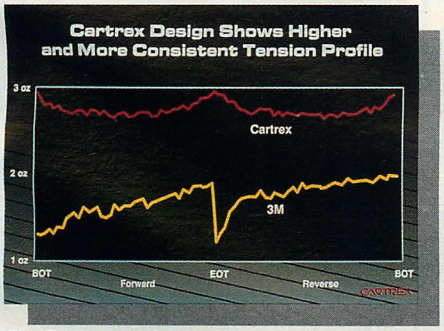
When 3M announced its cartridge in 1971, it was designed for a low capacity tape drive with less than 3 megabytes—2.88 to be exact. The tape was low in density—1600 bits per inch with only 4 tracks and 300 feet of tape.

The tolerances required for the tape drives of the early 1970's were fine for then, but today's tape drives require much tighter tolerance. Today's tape cartridges must work with drives that have 9 or more tracks and bit densities as high as 12,000 bits per inch on 600 feet of tape. That means capacity increases of 2,000 percent packed into the same cartridge.

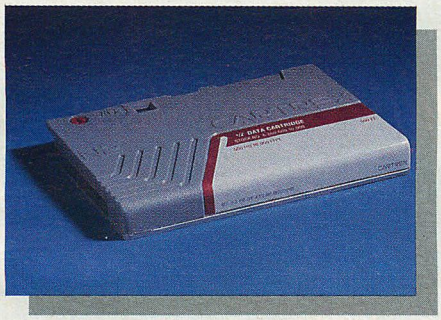
The reasons that yesterday's cartridge technology simply won't work properly in today's high capacity drives is inherent in the cartridge design. The three culprits that make cartridge tolerances so important are fluctuating tape tension, redeposit nodules, and instantaneous speed variations (or ISV).

Tape Tension

Tape tension at the read-write head is important because the tape drive's electronics expect data to arrive at a constant rate. Consistent tape tension is a function of the cartridge tensioning mechanism. The new Cartrex cartridge tensioning design, based on a mechanical differential between two stiff belts, provides very predictable results. The historic 3M design—used by 3M and DEI—uses an elastic belt coupled with drag friction at the rear pulley to create tension. The accompanying graph shows the significant improvement the Cartrex cartridge design offers over the conventional design.



The Cartrex cartridge provides predictable and stable tension. Compare it to the tension variation of the conventional cartridge design. The consistent Cartrex tension virtually eliminates data errors and data loss from head-to-tape separation and redeposit nodules that can occur with fluctuating, low-to-high tension performance.



The new Cartrex ¼-inch tape cartridge is the first new tape cartridge design in almost a decade and a half. Tape drive manufacturers now have a new cartridge technology which allows them to advance today's and tomorrow's drive performance.

Redeposit Nodules

Redeposit nodules are the insidious flakes of tape media that break off from the edges of the tape and get dragged to the edge of the read-write head. If the tension is low, or becomes low when the tape starts or reverses, the flakes slide past the edge, get smeared across the head, and reduce its ability to read data.

The free play in the two tape reels combined with the tape guides are the primary culprits in creating these redeposit nodules. As the tape enters the guide from the tape pack, the tape guide aligns the tape by balancing the tension at the edges of the tape. Uneven edge tension not only causes media to flake off causing redeposit nodules, but data is lost due to the "coining" or "scalloping" effect.

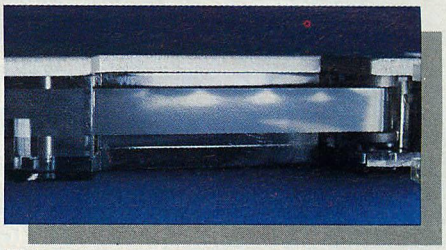
Cartrex eliminated the cause of the tape coining or scalloping with a barrel-shaped roller placed in front of the tape guide. The roller positions the tape and drops the edge tension to zero. By using this roller, the possibility of media flaking off and creating redeposit nodules is virtually eliminated.

Instantaneous Speed Variation (ISV)

Instantaneous speed variation is exactly what it sounds like—small, instantaneous changes in tape speed as it crosses the tape head. At slow tape speeds and low bit densities—like the 1971 standard of 30 inches per second and 1,600 bits per inch—ISV wasn't as big a problem. At that time, the bits were crossing the head at 48,000 bits per second.

Today, however, the story has changed. Ninety inches per second and 8,000 bits per inch mean that 720,000 bits cross the head every second. A 1,500% increase. As you may have guessed, 1971 speed fluctuations in the 48,000 bits per second range made reading data difficult for tape drive electronics. But today, when the electronics have to guess whether or not the bit rate of 720,000 bits per second is accurate, the electronics can become overwhelmed.

The Cartrex tensioning mechanism relieves the overload placed on the electronics with respect to ISV. The longitudinally stiff belts ensure tension at all times. The stiff belt overpowers variations that exist with the 3M elastic belt cartridges. The barrel roller guides, in addition to reducing the edge pressure to zero, tend to dampen out any residual ISV effects.



High speed tape seldom enters tape guides parallel to the top and bottom, even with improvements to the tape reel hub designs. The edge pressures which result create "scalloping" or "coining" on the tape. The effect is data loss due to head-to-tape separation, flaking media that smears across the head, and "redeposit nodules" that create hard errors.

Never a Single Issue

Your tape drive seldom has the luxury of dealing with an isolated problem. It's usually a combination of ISV, redeposit nodules, and tension problems all together. Now you understand why Cartrex developed a modern cartridge alternative.

Where to get it

Not only has Cartrex improved on the industry's 15 year old technology, they have done it for a competitive price.

Now you can have peace of mind when you back up your hard disk on today's sophisticated tape drives.

And you can have it fast. Simply phone and give Cartrex your purchase order number or your credit card number and they will send your cartridges by return mail.

(619) 485-6603 Ext. 100

Dealer Inquiries Invited.

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CARTREX

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The first real alternative in ¼-inch tape cartridges™

CIRCLE NO. 271 ON READERS SERVICE CARD

A New Micro Sub

The Smallest Tape Subsystem Available Today.

The new IRWIN 400 Series micro subsystem is so small you probably won't even notice it sitting next to your computer. IRWIN's *little* (3″ by 5″ by 8″) technological breakthrough, stores up to 40 Mb of data on a shirt pocket-sized cartridge. That's *BIG* protection for your IBM PC/XT, PC/AT or compatibles.

The new 400 Series provides backup capacities of 10 Mb, 20 Mb or 40 Mb. So you only pay for exactly what you need. And with IRWIN, compatibility is assured when your backup requirements grow. Our larger capacity tape drives can read your important files written on any other IRWIN drive.

You'll find that the cost of an IRWIN 400 is small too. The first time you need to restore data with any of the 400 Series, it will more than pay for itself.

One function, even easier than installing an IRWIN 400, is operating the menu-driven software. The IRWIN software permits unattended backup of your entire disk or only those files you choose. And it's fast. You can backup 40 Mb in the time it takes to say ABRA-CA-DABRA. Well-l-l . . . Maybe several ABRA-CA-DABRA's.

The only way to take up less space than with an IRWIN 400 is to install an Irwin BACKUP™ right inside your PC . . . we do that too! IRWIN has 10 Mb, 20 Mb and 40 Mb internal systems that slide right into a PC's floppy disk slot, providing you with a "zero" footprint for your backup needs.

The new 400 Series, extremely small in size yet large in capacity . . . a little more magic from Irwin.

Unlike magicians, Irwin wants you to know how it's done. To find out, call 1-800-BACKUP 1 or visit a leading computer store for a "hands on" demonstration.

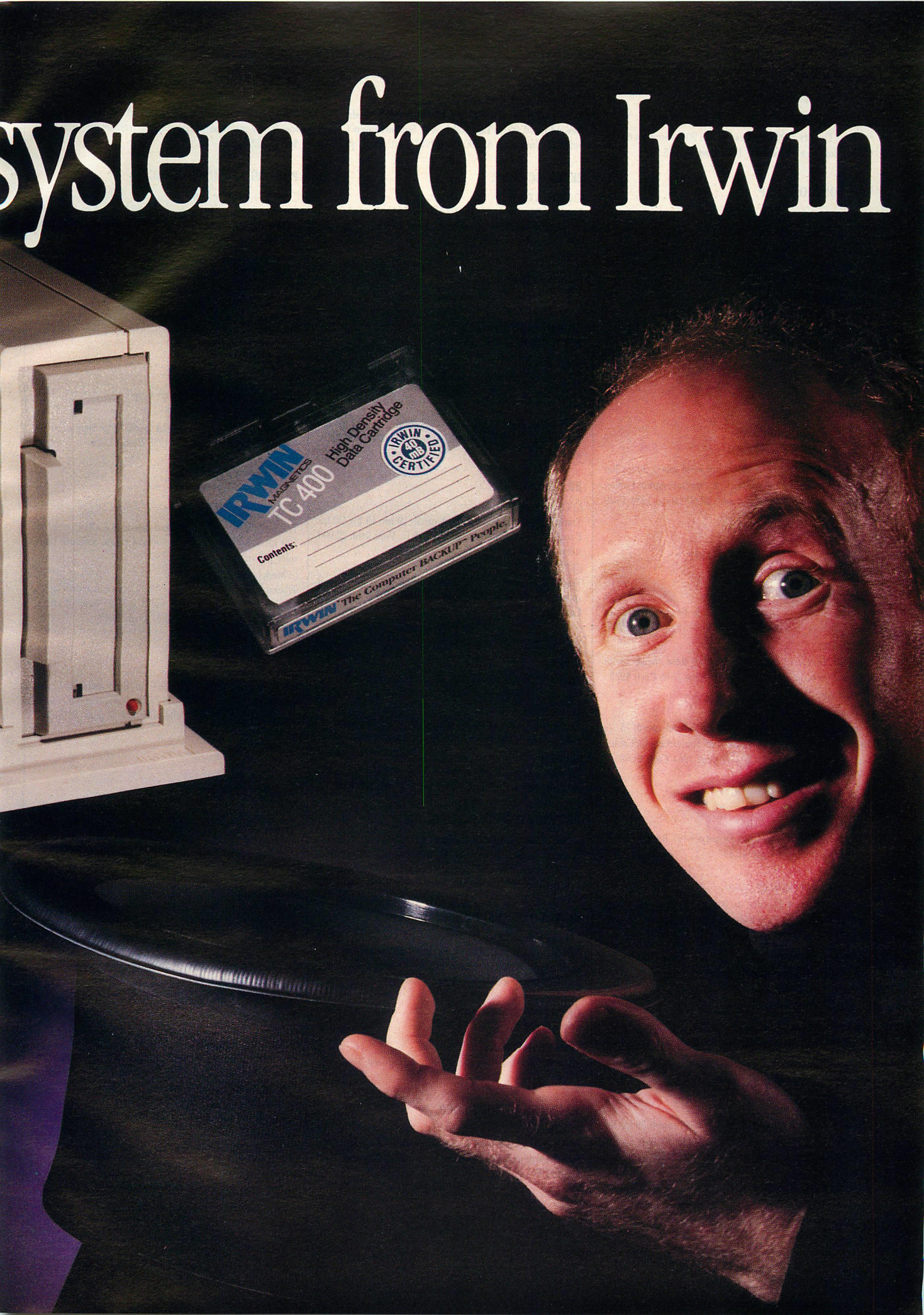
IRWIN® MAGNETICS

Irwin Magnetics Box 7639
Mt. Prospect, IL 60068
1•800•BACKUP 1

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data cartridge technology™

CIRCLE NO. 344 ON READERS SERVICE CARD


system from Irwin
IRWIN
MAGNETICS
TC 400
High Density
Data Cartridge
40 mb
IRWIN
CERTIFIED
Contents:
IRWIN "The Computer BACKUP" People.

QUADRAM
(subsidiary of Intelligent Systems Corp.)

☐ QuadTape 60 MB
Streamer Density: 8,000 bpi Read speed: 90 ips Support equip: Cables; Software Introduced: 1985 Cost: $1,795

SDM CONTROL CORP.

☐ SDM-100
Streamer Tracks: 9 Density: 1,600 bpi; 6,250 bpi Read speed: 100 ips Rewind speed: 100 ips Tape width: ¼ in. Support equip: Cables; Software Units sold: 100 since 1984 Cost: $1,995

SIGMA DESIGNS, INC.
SEE AD ON COVER 4

☐ FasTrack
Tracks: 9; 4 Read speed: 90 ips Tape width: ¼ in.; 1/8 in. Cost: $999-$1,399

SYSGEN, INC. (CA)

☐ Sysgen Smart QIC-FILE
Reviewed Nov 1985 p. 62.
Streamer Tracks: 9 Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables; Software; Interface card Units sold: 23,000 since 1984 Cost: $1,395-$1,495

TALLGRASS TECHNOLOGIES CORP.
SEE AD ON PAGE 137

☐ TG-1020e
Streamer Tracks: 12 Density: 10,000 bpi Read speed: 75 ips Tape width: ¼ in. Units sold: 1,000 since 1986 Cost: $1,295

☐ TG-1020i
Streamer Tracks: 12 Density: 10,000 bpi Read speed: 75 ips Tape width: ¼ in. Units sold: 15,000 since 1986 Cost: $995

☐ TG-4060
Reviewed Nov 1985 p. 62.
Streamer Tracks: 11 Density: 12,000 bpi Read speed: 75 ips Rewind speed: 75 ips Tape width: ¼ in. Support equip: Cables; Software; ROM Units sold: 20,000 since 1984 Cost: $1,995

TECMAR, INC.

☐ Q60AT
Streamer Tracks: 9 (serpentine) Density: 8,192 Read speed: 90 ips Tape width: ¼ in. Cost: $1,695

☐ Q60H
Reviewed Nov 1985 p. 62.
Streamer Tracks: 4 Density: 10,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Introduced: 1985 Cost: $2,144

TELEBYTE TECHNOLOGY, INC.
Remark Datacom Division

☐ Packetape
Tracks: 16 Read speed: 60 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Software Introduced: 1985 Cost: $3,000

TW TECHNOLOGIES, INC.

☐ HTTape-IRW 110
Streamer Tracks: 8 Density: 6,400 bpi Read speed: 39 ips Rewind speed: 70 ips Tape width: ¼ in. Support equip: Cables; Software Units sold: 3,000 since 1984 Cost: $425

☐ HTTape-SIG60
Streamer Tracks: 9 Density: 6,400 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables; Software Units sold: 1,000 since 1985 Cost: $1,125

WANGTEK, INC.

☐ Model 5000E
Streamer Tracks: 9; 4 Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Cables; Software Units sold: 65,000 since 1983 Cost: $878 (qty. 500)

ZETRATEC CORP.

☐ ZEKE-XT
Tracks: 6 Density: 6,400 bpi Read speed: 78 ips Rewind speed: 78 ips Tape width: ¼ in. Support equip: Software Units sold: 200 since 1984 Cost: $1,295

CASSETTE

ANALOG AND DIGITAL PERIPHERALS, INC. (ADPI)

☐ LG-1/2
Tracks: 2 Density: 800 bpi Read speed: 18 ips Rewind speed: 18 ips Tape width: ¼ in. Introduced: 1981 Cost: $399-$539

☐ Mega Byte Bucket
Tracks: 2 Density: 800 bpi; 1,600 bpi Read speed: 25 ips Rewind speed: 45 ips Tape width: ¼ in. Introduced: 1980 Cost: $795-$1,150

BRAEMAR CORP.

☐ CS400 Series
Tracks: 2 Density: 800 bpi Read speed: 10 ips; 15 ips; 20 ips Rewind speed: 75 ips Tape width: 0.15 in. Units sold: 22,000 since 1975 Cost: $405

☐ Pro-Loader II
Tracks: 2 Density: 800 bpi Read speed: 3 ips; 6 ips Rewind speed: 15 ips Tape width: 0.15 in. Units sold: 6,000 since 1982 Cost: $425

DATA TECHNOLOGY CORP.

☐ BackStop 1
Tracks: 4 (serpentine) Read speed: 90 ips Support equip: Cables; Software Introduced: 1985 Cost: $895-$1,095

☐ BackStop 2
Tracks: 4 (serpentine) Read speed: 90 ips Support equip: Cables; Software Introduced: 1985 Cost: $895-$1,095

☐ BackStop 3
Tracks: 4 (serpentine) Read speed: 90 ips Support equip: Cables; Software Introduced: 1985 Cost: $895-$1,095

DIGITAL STORAGE SYSTEMS, INC.

☐ ARC 8020 Continuous Backup
Streamer Tracks: 9 (serpentine) Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Support equip: Cables; Software; Host Adapter; Real-time backup Introduced: 1986 Cost: $1,695

EVEREX SYSTEMS, INC.

☐ Excel Stream-20
Streamer Tracks: 4 Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: 0.15 in. Support equip: Cables; Software Introduced: 1985 Cost: $895

GENOA SYSTEMS CORP.
SEE AD ON PAGE 189

☐ Model 3120/3220
Streamer Tracks: 4 Read speed: 90 ips Introduced: 1985 Cost: $1,095

MAGNETIC MEMORY CORP.

☐ ST/20
Streamer Tracks: 4 Read speed: 90 ips Rewind speed: 90 ips Support equip: Cables; Software Units sold: 2,200 since 1985 Cost: $795

MEMODYNE CORP.

☐ M-80
Tracks: 2 Density: 800 bpi; 615 bpi Read speed: 20 ips Rewind speed: 100 ips Tape width: 0.15 in. Introduced: 1979 Cost: $1,845-$2,650

PORTABLE SOLUTIONS, INC.

☐ BP-25+ Cassette Tape
Streamer Tracks: 4 Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Software Units sold: 1,000 since 1985 Cost: $1,395

☐ BP-45 Cassette Tape
Streamer Tracks: 9 Read speed: 90 ips Tape width: ¼ in. Introduced: 1986 Cost: $1,695

☐ BP-45+ Cassette Tape
Streamer Tracks: 9 (serpentine) Read speed: 90 ips Rewind speed: 90 ips Tape width: ¼ in. Support equip: Software Introduced: 1985

QUADRAM
(subsidiary of Intelligent Systems Corp.)

☐ QuadTape 20 MB
Streamer Density: 8,000 bpi Read speed: 90 ips Support equip: Cables; Software Introduced: 1985 Cost: $1,095

SAYLOR ELECTRONICS INTERNATIONAL, INC.

☐ Model 4000-500
Tracks: 2 Density: 1,600 bpi Read speed: 30 ips Rewind speed: 120 ips Tape width: 0.15 in. Support equip: Software Units sold: 150 since 1978 Cost: $3,985

☐ Model 4000-500-4
Tracks: 4 (serpentine) Density: 3,200 bpi Read speed: 30 ips Rewind speed: 120 ips Tape width: 0.15 in. Support equip: Cables Units sold: 250 since 1981 Cost: $6,450

SYSGEN, INC. (CA)

☐ Sysgen Smart Image
Streamer Tracks: 4 Density: 8,000 bpi Read speed: 90 ips Rewind speed: 90 ips Tape width: 1/8 in. Support equip: Cables; Software; Interface card Units sold: 34,000 since 1983 Cost: $795-$895

MONITORS

AMDEK CORP.
(subsidiary of Wyse Technology Corp.)

☐ Color 600
RGB monitor Screen size: 13 inch Phosphor: P22 Horizontal resolution: 640 dots Vertical resolution: 240 lines Packaging: Cabinet enclosure Support equip: Cables Units sold: 50,000 since 1984 Cost: $599

☐ Color 722
RGB; Dual-mode monitor Screen size: 13 inch Phosphor: P22 Horizontal resolution: 720 dots Vertical resolution: 240 or 350 lines Character matrix: 8 X 14; 8 X 8 Packaging: Cabinet enclosure Support equip: Cables Units sold: 7,000 since 1985 Cost: $799

☐ Color 730
RGB monitor Screen size: 13 inch Phosphor: P22 Horizontal resolution: 720 dots Vertical resolution: 480 lines (non-interlaced) Character matrix: 8 X 14 Packaging: Cabinet enclosure Support equip: Cables Introduced: 1986 Cost: $1,099

☐ Video 300A
Monochrome monitor Screen size: 12 inch Phosphor: Amber Horizontal resolution: 800 lines (corner) Vertical resolution: 960 lines (center) Packaging: Cabinet enclosure Support equip: Cables Units sold: 230,000 since 1982 Cost: $199

☐ Video 300G
Monochrome monitor Screen size: 12 inch Phosphor: Green (P31) Horizontal resolution: 800 lines (corner) Vertical resolution: 960 lines (center) Packaging: Cabinet enclosure Support equip: Cables Units sold: 230,000 since 1981 Cost: $179

Grasshopper.®



Fast, Automatic Tape Backup for $895.

20 or 40 Megabyte. Nowadays, tape backup comes in a lot of packages with a lot of promises. But many manufacturers have compromised for the sake of economy, in ways that are revealed only when the backup system fails to do its job. Those are the kind of bugs you don't want.

The Grasshopper is the one bug you need. Not a compromise. Simply superior technology. And this superiority translates to more convenience, more capability, more absolute dependability than you will find anywhere, at any price.

Automatic. The Grasshopper alone offers genuinely automatic, unattended backup. Every few minutes, when the operator is away from the keyboard, Tallgrass BackTrack® software checks your disk files for changes and automatically updates your backup tape.

BackTrack automatic backup is only one of the half-dozen backup options included in Grasshopper's menu. And with its 750 Kb/s data transfer rate, 50% faster than other budget alternatives, the Grasshopper gets its job done without interrupting workflow.

All this capability fits in a half-height floppy bay, or a zero-footprint external unit that fits neatly beside your monitor. A companion hard disk is available for both the internal and external models.

Totally reliable. Inside this trim package are all the error-detecting and correcting capabilities that made Tallgrass the industry leader. Our unique Data Reconstruction Code™ means your backup will be there to back you up. Every bit.





You get this technology in Tallgrass' dedicated tape controller card that maximizes the capability and reliability of cartridge tape. Others omit this tape controller card and treat tape like a floppy disk. That's a dangerous shortcut.

The first time you call on tape backup to restore data, you'll know how important absolute dependability is. We just want you to know how convenient and affordable the Grasshopper has made it. Call (800) 228-DISK for complete information, and the name of the Tallgrass dealer nearest you.

TALLGRASS TECHNOLOGIES
11100 W. 82nd Street
Overland Park, KS 66214

CIRCLE NO. 293 ON READERS SERVICE CARD

☐ Video 310A
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; P134 **Horizontal resolution:** 800 lines (corner) **Vertical resolution:** 960 lines (center) **Packaging:** Cabinet enclosure **Support equip:** Cables **Units sold:** 300,000 since 1983 **Cost:** $230

BFA SALES
(division of Aquila Technologies Group, Inc.)

☐ Model 1910
RGB monitor **Screen size:** 19 inch **Horizontal resolution:** 48 touch res.; 400 **Vertical resolution:** 32 touch res.; 400 **Packaging:** Cabinet enclosure

C. ITOH DIGITAL PRODUCTS, INC.

☐ Chroma Pro CM 1000
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 320 dots **Vertical resolution:** 240 lines **Introduced:** 1986 **Cost:** $499

☐ Chroma Pro CM 2000
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 240 lines **Introduced:** 1986 **Cost:** $599

CALMEX, INC.

☐ KF-100F
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P39) **Horizontal resolution:** 1,000 lines (center) **Character block:** 7 x 9 **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Support equip:** Cables

☐ KF-300
RGB monitor **Screen size:** 14 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 400 lines (interlaced) **Character block:** 8 x 8 dots **Packaging:** Cabinet enclosure **Support equip:** Cables

CAMBRIDGE GRAPHIC SYSTEMS, INC.

☐ MD-3
RGB monitor **Screen size:** 14 inch **Phosphor:** Amber; Green **Horizontal resolution:** 640 dots **Vertical resolution:** 400 lines (interlaced) **Character block:** 8 x 8 dots **Character matrix:** 8 X 8 **Packaging:** Cabinet enclosure **Support equip:** pin connector **Units sold:** 1,500 since 1985 **Cost:** $500

☐ VM1230; VM1211
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P31) **Horizontal resolution:** 720 dots **Vertical resolution:** 400 dots **Character block:** 5 X 7; 7 X 9 **Character matrix:** 7 x 14 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Units sold:** 7,000 since 3,000 **Cost:** $199 (monochrome); $500 (color)

COMPOSITION TECHNOLOGY INTERNATIONAL (CTI)

☐ PC PreView
Monochrome monitor **Screen size:** 15 inch **Phosphor:** White **Horizontal resolution:** 720 lines **Vertical resolution:** 990 lines **Packaging:** Cabinet enclosure **Support equip:** Cables; Controller **Units sold:** 14 since 1984 **Cost:** $1,995

☐ UltraView
Monochrome monitor **Screen size:** 17 inch **Phosphor:** White **Horizontal resolution:** 892 lines **Vertical resolution:** 1,155 lines **Packaging:** Cabinet enclosure **Units sold:** 90 since 1983 **Cost:** $1,995

COMPUTER DEVICES INTERNATIONAL

☐ MJ-22
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 506 pixels **Vertical resolution:** 240 pixels **Character matrix:** 5 x 7 dots; 8 x 8 **Packaging:** Cabinet enclosure **Introduced:** 1983

CONRAC DIVISION

☐ Model 7141
Color monitor **Screen size:** 19 inch **Horizontal resolution:** 1,024 pixels **Vertical resolution:** 768 pixels (interlaced) **Introduced:** 1986 **Cost:** $1,920

CORVUS OEM GROUP

☐ Color Monitor
Color monitor **Screen size:** 14 inch **Phosphor:** White **Character block:** 8 x 8 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1985 **Cost:** $840

☐ Monochrome Monitor
Monochrome monitor **Screen size:** 14 inch **Phosphor:** Amber; Green (P31) **Character block:** 8 x 8 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1984 **Cost:** $510

DAEWOO ELECTRONICS CO., LTD.

☐ DCM-471M
Color monitor **Screen size:** 13 inch **Packaging:** Cabinet enclosure **Introduced:** 1985

☐ DCM-472M
Color monitor **Screen size:** 13 inch **Introduced:** 1985

☐ DCM-473M
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 568 dots **Vertical resolution:** 400 lines **Packaging:** Cabinet enclosure **Introduced:** 1985

☐ DM-140M
Monochrome monitor **Screen size:** 14 inch **Phosphor:** Amber; Green (P31); Green (P39); White **Horizontal resolution:** 300 lines (center) **Character matrix:** 9 x 14 dots **Packaging:** Cabinet enclosure **Introduced:** 1985

DOTRONIX, INC.

☐ DTG-LCS Series
Monochrome monitor **Screen size:** 7 inch; 9 inch; 12 inch; 15 inch; 3 inch; 5 inch; 20 inch **Horizontal resolution:** 640 pixels **Vertical resolution:** 480 pixels

DYNAX, INC.

☐ FC10
RGB monitor **Screen size:** 13 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 200 dots **Character block:** 8 x 8 dots **Packaging:** Cabinet enclosure **Introduced:** 1984 **Cost:** $599

ELECTRO MECHANICAL SYSTEMS

☐ Touch Information Display (TID) Monitor
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber **Horizontal resolution:** 15.75 kHz **Vertical resolution:** 60 cycles **Character block:** 10 X 6 **Character matrix:** 5 x 7 dots **Packaging:** Rack-mounted **Units sold:** 50 since 1986 **Cost:** $1,265-$1,365

ELECTROHOME, LTD.

☐ ECD 1904
RGB monitor **Screen size:** 19 inch **Horizontal resolution:** 490 pixels **Vertical resolution:** 240 lines **Packaging:** Rack-mounted **Introduced:** 1985 **Cost:** $998

☐ ECD 2504
RGB monitor **Screen size:** 25 inch **Horizontal resolution:** 490 pixels **Vertical resolution:** 240 lines **Packaging:** Rack-mounted **Introduced:** 1985 **Cost:** $1,071

☐ ECM 1311
RGB monitor **Screen size:** 13 inch **Horizontal resolution:** 720 dots **Vertical resolution:** 540 lines **Packaging:** Cabinet enclosure **Introduced:** 1986 **Cost:** $1,198

☐ ECM 1901
RGB monitor **Screen size:** 19 inch **Phosphor:** Green (P31) **Horizontal resolution:** 720 dots **Vertical resolution:** 540 lines **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $2,160

GOLDSTAR ELECTRONICS INTERNATIONAL, INC.

☐ MBM-2015A; MBM-2015G
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P39) **Horizontal resolution:** 900 lines **Vertical resolution:** 370 lines **Character block:** 9 X 14 **Character matrix:** 7 x 9 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Units sold:** 22,000 since 1985 **Cost:** $185-$199

☐ MBM-2233A; MBM-2233G
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green **Horizontal resolution:** 900 lines **Vertical resolution:** 300 lines **Character block:** 5 X 7 **Character matrix:** 7 x 9 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Units sold:** 18,000 since 1984 **Cost:** $135

☐ MCH-4015
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 640 lines; 790 lines **Vertical resolution:** 240 lines **Character block:** 8 x 8 dots **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Units sold:** 6,900 since 1985 **Cost:** $659

☐ MCM-4035
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 260 lines **Character block:** 5 X 7 **Character matrix:** 8 X 8 **Packaging:** Cabinet enclosure **Support equip:** Cables **Units sold:** 19,000 since 1985 **Cost:** $550

GRANDWOOD DATA SYSTEMS

☐ Color Five
RGB monitor **Screen size:** 13 inch **Horizontal resolution:** 640 **Vertical resolution:** 200 lines (non-interlaced) **Character block:** 8 x 8 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1985

☐ Color One
RGB monitor **Screen size:** 13 inch **Horizontal resolution:** 720 lines **Vertical resolution:** 240 lines (non-interlaced); 480 lines (interlaced) **Character block:** 8 x 8 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1985 **Cost:** $699

☐ Color Three
RGB monitor **Screen size:** 13 inch **Phosphor:** Amber; Green (P4) **Horizontal resolution:** 640 **Vertical resolution:** 350 **Character block:** 8 x 8 dots; 9 x 12 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1985

☐ TTL One (Green); TTL Two (Amber)
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P39) **Horizontal resolution:** 1,200 lines (center); 800 lines (corner) **Character block:** 7 X 9 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1985 **Cost:** $250 (One); $260 (Two)

GREATWEST TECHNOLOGY, LTD.
SYSDYNE Products Division

☐ Sysdyne CD1343
RGB monitor **Screen size:** 13 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 240 lines **Packaging:** Chassis **Introduced:** 1986 **Cost:** $649

☐ Sysdyne MD12A/12G
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P39) **Horizontal resolution:** 1,000 lines (center) **Vertical resolution:** 800 lines (corner) **Introduced:** 1986 **Cost:** $199

HEXACE TECHNOLOGIES, INC.

☐ Polo RGB
RGB; Color monitor **Screen size:** 12 inch **Horizontal resolution:** 640 pixels **Vertical resolution:** 200 pixels **Character matrix:** 8 X 8 **Units sold:** 5,000 since 1984 **Cost:** $459

HITACHI AMERICA, LTD.
OEM Monitor Division

☐ CM-1216
RGB monitor **Screen size:** 12 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 240 lines **Packaging:** Cabinet enclosure

☐ CM-1409
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 560 dots **Vertical resolution:** 240 lines **Packaging:** Cabinet enclosure

☐ CM-1455S
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 720 dots **Vertical resolution:** 240 or 348 lines **Packaging:** Cabinet enclosure **Introduced:** 1985

☐ CM-1457A
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 720 dots **Vertical resolution:** 460 lines **Packaging:** Cabinet enclosure **Introduced:** 1985

☐ CM-1481H
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 260 dots **Vertical resolution:** 300 lines **Packaging:** Cabinet enclosure **Introduced:** 1985

☐ MM-1220
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber **Character matrix:** 7 x 9 dots **Packaging:** Cabinet enclosure **Introduced:** 1985

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Model 5153
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 200 dots **Packaging:** Cabinet enclosure **Cost:** $680

☐ Model 5154-1 Color Display
Color monitor **Character block:** 8 X 14 dots **Introduced:** 1984 **Cost:** $849

ICS
(division of Action Instruments)

☐ 6531-CM
RGB monitor **Screen size:** 12 inch **Horizontal resolution:** 690 dots **Vertical resolution:** 240 lines (non-interlaced); 480 lines (non-interlaced) **Character matrix:** 8 X 8 **Packaging:** Rack-mounted **Support equip:** Cables **Introduced:** 1985 **Cost:** $1,489

☐ 6531-MM
Black/White monitor **Screen size:** 12 inch **Horizontal resolution:** 720 dots **Vertical resolution:** 350 lines **Packaging:** Rack-mounted **Support equip:** Cables **Introduced:** 1985 **Cost:** $869

IMAGE AMPLIFICATION, INC.

☐ Barco Electronic PCD 16H40
Color monitor **Screen size:** 16 inch **Phosphor:** P22 **Horizontal resolution:** 800 pixels **Vertical resolution:** 600 pixels **Packaging:** Cabinet enclosure **Units sold:** 100 since 1984 **Cost:** $1,325

INDTECH, INC.

☐ High Resolution Monochrome Monitor
Monochrome monitor **Screen size:** 12 inch **Horizontal resolution:** 720 dots **Vertical resolution:** 350 lines **Packaging:** Cabinet enclosure **Introduced:** 1984

☐ High Resolution RGB Color Monitor
RGB monitor **Screen size:** 12 inch **Horizontal resolution:** 690 dots **Vertical resolution:** 480 lines (interlaced); 240 lines (non-interlaced) **Character matrix:** 8 X 8 **Packaging:** Cabinet enclosure **Introduced:** 1984

ITW ENTREX
(division of Illinois Tool Works, Inc.)

☐ Cyclops Color Touch Screen
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 720 or 560 dots **Vertical resolution:** 240 lines **Introduced:** 1985 **Cost:** $1,235-$1,325

☐ Cyclops Monochrome Touch Screen
Monochrome monitor **Screen size:** 12 inch; 14 inch **Phosphor:** Amber; Green **Horizontal resolution:** 1,000 lines (center) **Vertical resolution:** 800 lines (corner) **Introduced:** 1985

MICRO DISPLAY SYSTEMS, INC.

☐ The Genius VHR, Model 401
Monochrome monitor **Screen size:** 15 inch **Phosphor:** Soft white **Horizontal resolution:** 728 pixels **Vertical resolution:** 1,008 pixels **Character block:** 9 X 15 **Character matrix:** 8 X 12 **Packaging:** Cabinet enclosure **Support equip:** Cables; Adapter board **Units sold:** 800 since 1984 **Cost:** $1,395

☐ The Genius VHR, Model 402
Monochrome monitor **Screen size:** 15 inch **Phosphor:** Soft white **Horizontal resolution:** 728 pixels **Vertical resolution:** 1,008 pixels **Character block:** 9 X 15 **Character matrix:** 8 X 12 **Packaging:** Cabinet enclosure **Support equip:** Cables; Adapter board **Units sold:** 1,000 since 1985 **Cost:** $1,795

MICROTOUCH SYSTEMS, INC.

☐ Enhanced Touch Screen
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 640 pixels **Vertical resolution:** 350 lines (interlaced) **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $1,945

☐ M/A 8856; 8855
RGB monitor **Screen size:** 19 inch **Horizontal resolution:** 1,024 pixels (non-interlaced) **Introduced:** 1986 **Cost:** $5,490

☐ Mono Touch Monitor
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber **Horizontal resolution:** 720 pixels **Vertical resolution:** 350 lines **Character matrix:** 9 x 14 dots **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $1,145

☐ RGB Touch Monitor
RGB monitor **Screen size:** 13 inch **Horizontal resolution:** 640 pixels **Vertical resolution:** 400 lines (non-interlaced) **Character matrix:** 8 X 8 **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $1,695

MICROVITEC, INC.

☐ Definition 890/DI
RGB monitor **Screen size:** 14 inch **Horizontal resolution:** 653 pixels **Vertical resolution:** 550 pixels **Packaging:** Cabinet enclosure **Support equip:** Cables; ROM **Units sold:** 500 since 1985 **Cost:** $575

☐ Definition 895/DD
RGB monitor **Screen size:** 14 inch **Horizontal resolution:** 895 **Vertical resolution:** 585 **Support equip:** Cables; ROM **Units sold:** 2,000 since 1984 **Cost:** $895

☐ Definition 895/DI
RGB monitor **Screen size:** 14 inch **Horizontal resolution:** 895 **Vertical resolution:** 585 **Packaging:** Cabinet enclosure **Support equip:** Cables; ROM **Units sold:** 800 since 1984 **Cost:** $895

☐ Definition 895/DN
RGB monitor **Screen size:** 14 inch **Horizontal resolution:** 895 **Vertical resolution:** 585 **Packaging:** Cabinet enclosure **Support equip:** Cables; ROM **Units sold:** 500 since 1985 **Cost:** $995

☐ Definition 895/DU
RGB monitor **Screen size:** 14 inch **Horizontal resolution:** 930 pixels **Vertical resolution:** 550 pixels **Packaging:** Cabinet enclosure **Support equip:** Cables; ROM **Units sold:** 100 since 1985 **Cost:** $895

☐ Definition 901/CI
RGB monitor **Screen size:** 20 inch **Horizontal resolution:** 653 pixels **Vertical resolution:** 585 pixels **Introduced:** 1986 **Cost:** $2,195

MITSUBA CORP.

☐ Model 160A
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Chocolate; Green **Horizontal resolution:** 1,000 lines (center) **Vertical resolution:** 800 lines (corner) **Packaging:** Cabinet enclosure **Introduced:** 1985

☐ Model 300C
Color monitor **Screen size:** 14 inch **Horizontal resolution:** 380 dots **Vertical resolution:** 262 lines **Packaging:** Cabinet enclosure

☐ Model 500 A/G
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green

☐ Model 510A
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green **Horizontal resolution:** 1,000 lines (center) **Vertical resolution:** 800 lines (corner) **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $169

☐ Model 700C
Color monitor **Screen size:** 12 inch **Horizontal resolution:** 510 dots **Vertical resolution:** 262 lines **Character block:** 8 x 8 dots **Packaging:** Cabinet enclosure

☐ Model 800H
RGB; Color monitor **Screen size:** 14 inch **Horizontal resolution:** 720 dots **Vertical resolution:** 240 lines (non-interlaced); 480 lines (interlaced) **Character block:** 8 x 8 dots **Packaging:** Cabinet enclosure

☐ Model 800M
Monochrome; Color monitor **Screen size:** 14 inch **Horizontal resolution:** 380 dots **Vertical resolution:** 262 lines **Packaging:** Cabinet enclosure

MITSUBISHI ELECTRONICS AMERICA, INC.

☐ XC-1409C
Color monitor **Screen size:** 13 inch **Phosphor:** P22 **Horizontal resolution:** 640 dots **Vertical resolution:** 200 lines **Packaging:** Cabinet enclosure **Introduced:** 1985

☐ XC-1412C
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 400 or 480 lines **Packaging:** Chassis **Introduced:** 1985

MONITERM CORP.

☐ VY-20 Series
Monochrome monitor **Screen size:** 19 inch **Horizontal resolution:** 1,100 pixels **Vertical resolution:** 1,300 pixels **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $1,500

NANAO USA CORP.

☐ 3030 Series
Monochrome monitor **Screen size:** 12 inch **Horizontal resolution:** 800 dots **Vertical resolution:** 350 lines **Introduced:** 1986 **Cost:** $230-$243

☐ 8030 Series
Color monitor **Screen size:** 14 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 262 lines **Introduced:** 1986 **Cost:** $548-$781

☐ 8040 Series
Color monitor **Screen size:** 14 inch **Horizontal resolution:** 800 dots **Vertical resolution:** 410 lines **Introduced:** 1986 **Cost:** $795-$815

NEC HOME ELECTRONICS (U.S.A.), INC.
Personal Computer Products Division

☐ JB1270MA
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Green (P31) **Horizontal resolution:** 800 dots **Vertical resolution:** 200 lines **Packaging:** Cabinet enclosure **Support equip:** (optional) cable **Introduced:** 1985 **Cost:** $179

☐ JB1275MA
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber **Horizontal resolution:** 800 dots **Vertical resolution:** 200 lines **Character block:** 8 x 8 dots **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Support equip:** (optional) cable **Introduced:** 1985 **Cost:** $179

☐ JB1280DA; JB1285DA
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P39) **Horizontal resolution:** 720 dots **Vertical resolution:** 350 lines **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1985 **Cost:** $219

☐ JC1216DFA
RGB monitor **Screen size:** 12 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 240 or 280 lines **Character block:** 8 x 8 dots **Packaging:** Cabinet enclosure **Support equip:** (optional) cables **Introduced:** 1983 **Cost:** $549

☐ JC1401P3A MultiSync
Color monitor **Screen size:** 13 inch; 14 inch **Phosphor:** B22 **Horizontal resolution:** 800 dots **Vertical resolution:** 560 lines **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1986 **Cost:** $799

PANASONIC INDUSTRIAL CO.
Computer Products Division

☐ BT-P4500D
RGB monitor **Screen size:** 45 inch **Phosphor:** Green **Horizontal resolution:** 640 pixels **Vertical resolution:** 240 pixels **Packaging:** Cabinet enclosure **Introduced:** 1984 **Cost:** $4,995

☐ DT-H103
RGB monitor **Screen size:** 10 inch **Phosphor:** P22 **Horizontal resolution:** 640 pixels **Vertical resolution:** 480 pixels **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Introduced:** 1984 **Cost:** $579

☐ TX-12H3P
RGB monitor **Screen size:** 12 inch **Horizontal resolution:** 640 pixels **Vertical resolution:** 200 pixels **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $619

PERSONAL TOUCH CORP.

☐ TouchMonitor 14
Monochrome monitor **Screen size:** 14 inch **Phosphor:** Amber; Green (P39) **Packaging:** Cabinet enclosure **Units sold:** 2,000 since 1985 **Cost:** $498

PORTABLE TECHNOLOGY CORP.

☐ Model 6420-A
Monochrome monitor **Screen size:** 7 inch **Horizontal resolution:** 640 pixels **Vertical resolution:** 200 pixels **Character matrix:** 5 x 7 dots **Support equip:** Cables **Introduced:** 1985 **Cost:** $595

☐ Model 6420-B
Monochrome monitor **Screen size:** 10 inch **Horizontal resolution:** 640 pixels **Vertical resolution:** 200 pixels **Character matrix:** 5 x 7 dots **Support equip:** Cables **Introduced:** 1985 **Cost:** $675

PRINCETON GRAPHIC SYSTEMS
(division of Intelligent Systems Co.)

☐ HX-12
Color monitor **Screen size:** 12 inch **Phosphor:** P22 **Horizontal resolution:** 640 or 690 pixels **Vertical resolution:** 200 or 240 lines (non-interlaced) **Character block:** 8 x 8 dots **Character matrix:** 5 x 7 dots **Packaging:** Rack-mounted; Cabinet enclosure **Support equip:** Cables **Introduced:** 1982 **Cost:** $695

☐ HX-12E
Color monitor **Screen size:** 12 inch **Phosphor:** P22 **Horizontal resolution:** 640 or 770 pixels **Vertical resolution:** 200 or 350 lines (non-interlaced) **Character block:** 8 x 8 dots; 8 X 16 **Character matrix:** 5 x 7 dots; 5 X 14 **Packaging:** Rack-mounted; Cabinet enclosure **Support equip:** Cables **Introduced:** 1985 **Cost:** $785

☐ HX-9E
Color monitor **Screen size:** 9 inch **Phosphor:** P22 **Horizontal resolution:** 640 or 770 pixels **Vertical resolution:** 200 or 350 lines (non-interlaced) **Character block:** 8 x 8 dots; 8 X 16 **Character matrix:** 5 x 7 dots; 5 X 14 **Packaging:** Rack-mounted; Cabinet enclosure **Support equip:** Cables **Introduced:** 1986 **Cost:** $750

☐ MAX-12
Amber (P134) monitor **Screen size:** 12 inch **Phosphor:** Amber **Horizontal resolution:** 720 or 640 pixels **Vertical resolution:** 350 or 200 lines (non-interlaced) **Character block:** 7 x 9 **Character matrix:** 9 x 14 dots **Packaging:** Rack-mounted; Cabinet enclosure **Support equip:** Cables **Introduced:** 1984 **Cost:** $249

☐ SR-12
Color monitor **Screen size:** 12 inch **Phosphor:** P22 **Horizontal resolution:** 640 or 690 pixels **Vertical resolution:** 400 or 480 lines (non-interlaced) **Character block:** 8 x 16 **Character matrix:** 7 x 14 dots **Packaging:** Rack-mounted; Cabinet enclosure **Support equip:** Cables **Introduced:** 1984 **Cost:** $799

☐ SR-12P
Color monitor **Screen size:** 12 inch **Phosphor:** P22 **Horizontal resolution:** 640 or 830 pixels **Vertical resolution:** 480 lines (non-interlaced) **Character block:** 8 X 16 **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1985 **Cost:** $999

QUADRAM
(subsidiary of Intelligent Systems Corp.)

☐ Quadchrome Enhanced Display
Monochrome monitor **Screen size:** 13 inch **Horizontal resolution:** 640 pixels **Vertical resolution:** 350 pixels **Packaging:** Cabinet enclosure **Cost:** $795

☐ Quadchrome II
RGB monitor **Screen size:** 12 inch **Horizontal resolution:** 690 dots **Vertical resolution:** 480 dots

☐ Quadchrome II CH8410
RGB monitor **Screen size:** 14 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 240 dots **Character block:** 8 x 8 dots **Character matrix:** 8 x 8 **Packaging:** Cabinet enclosure **Introduced:** 1984 **Cost:** $595

☐ Quadscreen QS 8500
Monochrome monitor **Screen size:** 17 inch **Phosphor:** Green (P4); Green (P39); White **Horizontal resolution:** 968 dots **Vertical resolution:** 512 lines **Character block:** 8 x 8 dots **Character matrix:** 5 x 7 dots; 11 X 9 **Packaging:** Cabinet enclosure **Support equip:** Cables; Software **Introduced:** 1983 **Cost:** $1,995

QUIMAX SYSTEMS, INC.

☐ DM 14A
Monochrome monitor **Screen size:** 13 inch **Phosphor:** Amber **Horizontal resolution:** 750 dots **Vertical resolution:** 350 lines **Character block:** 7 X 9 **Character matrix:** 7 x 9 dots **Packaging:** Cabinet enclosure **Introduced:** 1984 **Cost:** $219

☐ DM 14G
Monochrome monitor **Screen size:** 13 inch **Phosphor:** Green (P39) **Horizontal resolution:** 750 dots **Vertical resolution:** 350 lines **Character block:** 8 X 8 **Character matrix:** 7 x 9 dots **Packaging:** Cabinet enclosure **Introduced:** 1984 **Cost:** $219

☐ PX-II
Color monitor **Screen size:** 13 inch **Phosphor:** P22 **Horizontal resolution:** 560 dots **Vertical resolution:** 240 TV lines **Character block:** 8 x 8 dots **Character matrix:** 8 X 8 **Packaging:** Cabinet enclosure **Introduced:** 1984 **Cost:** $579

☐ PX-IV
Color monitor **Screen size:** 13 inch **Phosphor:** P22 **Horizontal resolution:** 720 dots **Vertical resolution:** 240 TV lines **Character block:** 8 x 8 dots **Character matrix:** 7 x 9 dots **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $649

☐ PX-22
RGB monitor **Screen size:** 13 inch **Phosphor:** P22 **Horizontal resolution:** 720 dots **Vertical resolution:** 350 lines **Character block:** 8 x 8 dots **Character matrix:** 8 X 14 **Packaging:** Cabinet enclosure **Introduced:** 1986 **Cost:** $729

☐ PX-32
Color monitor **Screen size:** 13 inch **Phosphor:** P22 **Horizontal resolution:** 720 dots **Vertical resolution:** 480 lines **Character matrix:** 7 x 9 dots **Packaging:** Cabinet enclosure **Introduced:** 1986 **Cost:** $899

ROLAND DG
(division of Roland Corp. US)

☐ CC-121
Color monitor **Screen size:** 12 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 200 lines **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Cost:** $599

☐ CD-240
Color monitor **Screen size:** 12 inch **Horizontal resolution:** 720 dots **Vertical resolution:** 400 lines (non-interlaced) **Cost:** $795

☐ MB-142
Black/white monitor **Screen size:** 14 inch **Horizontal resolution:** 720 **Vertical resolution:** 350 **Introduced:** 1985 **Cost:** $375

SAKATA USA CORP.

☐ SA1000
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber **Horizontal resolution:** 900 dots (center) **Vertical resolution:** 800 dots (corner) **Character block:** 9 X 10 dots **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Introduced:** 1984 **Cost:** $159

☐ SC100
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 280 lines **Vertical resolution:** 300 lines **Character block:** 7 x 12 dots **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Introduced:** 1983 **Cost:** $299

☐ SC200
RGB monitor **Screen size:** 13 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 240 lines **Character block:** 7 x 9 dots **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Introduced:** 1983 **Cost:** $599

☐ SG1000
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Green (P31) **Horizontal resolution:** 900 dots (center) **Vertical resolution:** 800 dots (corner) **Character block:** 9 x 10 dots **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Introduced:** 1983 **Cost:** $149

SAMPO CORP. OF AMERICA
Industrial Products Division

☐ KDS-1322; KDS-1332; KDS-1342
Color monitor **Screen size:** 13 inch **Introduced:** 1985

SAMSUNG ELECTRONICS AMERICA, INC.

☐ CD-1452F
Color monitor **Screen size:** 14 inch **Horizontal resolution:** 700 dots **Vertical resolution:** 225 lines **Character block:** 17 X 10 **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure

☐ CP-1251F
RGB monitor **Screen size:** 12 inch **Horizontal resolution:** 615 dots **Vertical resolution:** 225 lines **Character block:** 7 X 10 **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure

☐ MD-1254G
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P39) **Horizontal resolution:** 80 **Packaging:** Cabinet enclosure

☐ MD-1277D
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P31); Green (P39); P4 **Character block:** 7 X 10 **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure

SANYO BUSINESS SYSTEMS CORP.
(Computer Division)

☐ CRT-40
Monochrome monitor Screen size: 12 inch Phosphor: Green (P39) Horizontal resolution: 720 dots Vertical resolution: 350 dots Character matrix: 9 x 14 dots Packaging: Cabinet enclosure Support equip: Cables Units sold: 2,000 since 1985 Cost: $209

☐ CRT-41
Monochrome monitor Screen size: 12 inch Phosphor: Amber Horizontal resolution: 720 dots Vertical resolution: 350 dots Character matrix: 9 x 14 dots Packaging: Cabinet enclosure Support equip: Cables Introduced: 1985 Cost: $209

☐ CRT-80
Color monitor Screen size: 12 inch Phosphor: P22 Horizontal resolution: 540 dots Vertical resolution: 200 dots Character matrix: 8 x 8 Packaging: Cabinet enclosure Support equip: Cables Units sold: 2,000 since 1985 Cost: $599

☐ CRT-88
Color monitor Screen size: 12 inch Phosphor: P22 Horizontal resolution: 640 dots Vertical resolution: 200 dots Character matrix: 8 x 8 Packaging: Cabinet enclosure Support equip: Cables Introduced: 1985 Cost: $699

SDM CONTROL CORP.

☐ SDM XL-100
Color monitor Screen size: 13 inch Phosphor: Amber; Blue; Green (P4) Horizontal resolution: 640 dots Vertical resolution: 200 dots Character block: 9 x 12 dots Character matrix: 7 x 9 dots Packaging: Rack-mounted Units sold: 200 since 1984 Cost: $1,395

SHARP ELECTRONICS CORP.
Systems Division

☐ 12M-15BU; 12M-15BUA
Monochrome monitor Screen size: 12 inch Phosphor: Amber; Green Horizontal resolution: 640 dots Vertical resolution: 200 dots Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Support equip: Cables Introduced: 1984 Cost: $155 (12M-15BU); $165 (12M-15BUA)

☐ 12M-22U
RGB monitor Screen size: 12 inch Phosphor: P22 Horizontal resolution: 640 dots Vertical resolution: 200 dots Character block: 9 X 14 Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Support equip: Cables Introduced: 1984 Cost: $549

☐ 13M-31U
Color monitor Screen size: 13 inch Phosphor: P22 Horizontal resolution: 280 dots Vertical resolution: 350 dots Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Support equip: Cables Introduced: 1984 Cost: $339

SONY CORPORATION OF AMERICA
Microcomputer Products Division

☐ CPD-1201
Color monitor Screen size: 12 inch Horizontal resolution: 800 dots Vertical resolution: 240 dots Introduced: 1985

☐ CPD-9000
Color monitor Screen size: 9 inch Horizontal resolution: 640 dots Vertical resolution: 240 dots Introduced: 1985

☐ KV-1311CR
Color monitor Screen size: 13 inch Horizontal resolution: 640 dots Vertical resolution: 200 dots Introduced: 1985

TATUNG CO. OF AMERICA

☐ CM-1360
Color monitor Screen size: 13 inch Phosphor: B22 Horizontal resolution: 640 lines Vertical resolution: 200 lines (non-interlaced) Character block: 8 x 8 dots Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Support equip: Cables Units sold: 30,000 since 1985 Cost: $595

☐ CM-1365
Color monitor Screen size: 13 inch Horizontal resolution: 640 lines Vertical resolution: 200 lines Packaging: Cabinet enclosure Introduced: 1986 Cost: $625

☐ CM-1370
Color monitor Screen size: 13 inch Phosphor: B22 Horizontal resolution: 720 dots Vertical resolution: 400 lines Character block: 8 x 8 dots Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Support equip: Cables Units sold: 15,000 since 1985 Cost: $799

☐ CM-1376
Color monitor Screen size: 13 inch Phosphor: B22 Horizontal resolution: 640 (non-interlaced) Vertical resolution: 480 (non-interlaced) Character matrix: 8 X 8 Packaging: Cabinet enclosure Units sold: 1,000 since 1986 Cost: $850

☐ CM-1380
Color monitor Screen size: 13 inch Phosphor: P22 Horizontal resolution: 640 dots Vertical resolution: 200 or 350 lines Character matrix: 5 x 7 dots; 5 X 10 Packaging: Cabinet enclosure Units sold: 5,000 since 1986 Cost: $785

☐ MM-1222A; 1222G
Monochrome monitor Screen size: 12 inch Phosphor: Amber; Green (P39) Horizontal resolution: 800 dots Vertical resolution: 350 dots Character matrix: 10 X 14 dot Packaging: Cabinet enclosure Support equip: Cables Units sold: 25,000 since 1985 Cost: $215 (MM-1222A); $205 (MM-1222G)

☐ MM-1422A; MM-1422G
Monochrome monitor Screen size: 14 inch Horizontal resolution: 800 dots Vertical resolution: 250 lines Packaging: Cabinet enclosure Introduced: 1986 Cost: $269; $249

TAXAN CORP.

☐ Model 115
Monochrome monitor Screen size: 12 inch Phosphor: Green (P31) Horizontal resolution: 1,000 lines (center) Vertical resolution: 262 lines Character block: 6 x 12 dots Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Support equip: Cables Units sold: 12,000 since 1984 Cost: $180

☐ Model 116
Monochrome monitor Screen size: 12 inch Phosphor: Amber Horizontal resolution: 1,000 lines (center) Vertical resolution: 262 lines Character block: 6 x 12 dots Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Support equip: Cables Units sold: 14,000 since 1984 Cost: $190

☐ Model 620
RGB monitor Screen size: 12 inch Phosphor: Amber; Green (P31); White Horizontal resolution: 640 lines Vertical resolution: 262 lines Packaging: Cabinet enclosure Support equip: Cables Units sold: 10,000 since 1985 Cost: $595

☐ Model 650
RGB monitor Screen size: 12 inch Horizontal resolution: 800 lines (non-interlaced) Vertical resolution: 400 lines (non-interlaced) Packaging: Cabinet enclosure Introduced: 1986 Cost: $850

☐ Model 740M
RGB monitor Screen size: 16 inch Horizontal resolution: 960 Vertical resolution: 560 Packaging: Cabinet enclosure Introduced: 1986 Cost: $1,300

☐ Models 121; 122
Monochrome monitor Screen size: 12 inch Phosphor: Green (P39); PUL Amber Horizontal resolution: 1,000 lines (center) Vertical resolution: 360 Character block: 7 X 9 Character matrix: 7 x 9 dots Packaging: Cabinet enclosure Support equip: Cables Units sold: 42,000 since 1984 Cost: $205 (Model 121); $215 (Model 122)

☐ Models 630; 635
RGB monitor Screen size: 12 inch Phosphor: Green Horizontal resolution: 640 lines non-interlaced Vertical resolution: 400 lines non-interlaced Character block: 7 X 9 Packaging: Cabinet enclosure Support equip: Cables Units sold: 8,000 since 1985 Cost: $675

TECMAR, INC.

☐ Tecmar Color Monitor
Color monitor Screen size: 13 inch Phosphor: Blue; Green (P39); Red; White Horizontal resolution: 720 Vertical resolution: 480 Character block: 8 x 8 dots Character matrix: 7 x 9 dots Packaging: Cabinet enclosure Introduced: 1985 Cost: $795

TECO AMERICAN, INC.
(subsidiary of Teco Electric & Machinery Co., Ltd.)

☐ TE-5153; TE-5154
Color monitor Screen size: 14 inch Horizontal resolution: 640 Vertical resolution: 200 or 350 Packaging: Cabinet enclosure

☐ TM-1236
Monochrome monitor Screen size: 12 inch Packaging: Cabinet enclosure

TEKNIKA ELECTRONICS CORP.

☐ MJ-10
Color monitor Screen size: 13 inch Horizontal resolution: 300 lines

☐ MJ-22
Color monitor Screen size: 13 inch Horizontal resolution: 506 pixels Vertical resolution: 240 pixels Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Cost: $440

THOMSON CONSUMER PRODUCTS CORP.

☐ CM 31311 SI
RGB monitor Screen size: 12 inch Phosphor: P22 Horizontal resolution: 690 pixels Vertical resolution: 240 dots Character block: 8 x 8 dots Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Support equip: Cables Introduced: 1985 Cost: $629

☐ CM 31481 VI
Color monitor Screen size: 12 inch Phosphor: P22 Horizontal resolution: 560 pixels Vertical resolution: 240 lines Character block: 8 x 8 dots Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Introduced: 1986 Cost: $449

☐ CM 36311 ID
Color monitor Screen size: 14 inch Phosphor: P22 Horizontal resolution: 720 Vertical resolution: 200 or 350 Character block: 8 x 8 dots; 8 X 14 Character matrix: 5 x 7 dots; 9 x 14 dots; 5 X 10 Packaging: Cabinet enclosure Support equip: Cables Introduced: 1986 Cost: $750

☐ CM 36382 SI
RGB monitor Screen size: 13 inch Phosphor: P22 Horizontal resolution: 640 pixels Vertical resolution: 240 dots Character block: 8 x 8 dots Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Support equip: Cables Introduced: 1985 Cost: $549

☐ CM 36512 VI
Color monitor Screen size: 13 inch Phosphor: P22 Horizontal resolution: 560 pixels Vertical resolution: 246 dots Character block: 8 x 8 dots Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Support equip: (optional) Cables Introduced: 1985 Cost: $429

☐ CM 36632 V
Color monitor Screen size: 13 inch Phosphor: P22 Horizontal resolution: 260 pixels Vertical resolution: 300 dots Character block: 8 x 8 dots Character matrix: 5 x 7 dots Packaging: Cabinet enclosure Introduced: 1985 Cost: $249

☐ VM 3101 VG/VA
Monochrome monitor Screen size: 12 inch Phosphor: Amber; Green (P31) Horizontal resolution: 1,000 dots Character block: 12 x 16 dots Character matrix: 9 x 14 dots Packaging: Cabinet enclosure Introduced: 1984 Cost: $139 (green); $149 (amber)

☐ VM 3102 IG/IA
Monochrome monitor Screen size: 12 inch Phosphor: Amber; Green (P31) Horizontal resolution: 1,000 or 1,200 dots Character block: 12 x 16 dots Character matrix: 9 x 14 dots Packaging: Cabinet enclosure Support equip: Cables Introduced: 1985 Cost: $169 (green); $179 (amber)

☐ VM 3102 VG/VA
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P31) **Horizontal resolution:** 1,000 dots **Character block:** 12 x 16 dots **Character matrix:** 9 x 14 dots **Packaging:** Cabinet enclosure **Introduced:** 1985

☐ VM 3107 IA/G
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P39) **Horizontal resolution:** 1,000 dots **Vertical resolution:** 1,200 dots **Character block:** 12 x 16 dots **Character matrix:** 9 x 14 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1986 **Cost:** $199 (green); $209 (amber)

☐ VM 3801 DA/DG
Monochrome monitor **Screen size:** 15 inch **Phosphor:** Amber; Green (P4) **Introduced:** 1986 **Cost:** $249 (DA); $239 (DG)

TORCH GRAPHIC TECHNOLOGY
(subsidiary of Korean Data Systems)

☐ Torch I
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green **Horizontal resolution:** 850 lines **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure

☐ Torch II
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber **Horizontal resolution:** 1,000 lines (center) **Packaging:** Cabinet enclosure

☐ Torch TX-12E
Color monitor **Screen size:** 12 inch **Phosphor:** B22 (RGB) **Horizontal resolution:** 640 lines **Vertical resolution:** 350 lines **Character block:** 8 x 8 dots **Character matrix:** 8 X 8 **Packaging:** Cabinet enclosure

TOSHIBA AMERICA, INC.
Information Systems Division

☐ P12MX 00
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Green (P31) **Horizontal resolution:** 640 lines (center) **Vertical resolution:** 200 **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure

☐ P13C 500
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 200 or 350 **Packaging:** Cabinet enclosure

☐ P13CS 00
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 200 **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure

☐ P13CW 00
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 200 **Packaging:** Cabinet enclosure

☐ P13CY 00
Color monitor **Screen size:** 13 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 200 **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure

☐ P14CY 03
Color monitor **Screen size:** 14 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 200 **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure

TTX GROUP, INC.

☐ TTX1202-G/A
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P39) **Horizontal resolution:** 1,000 lines **Vertical resolution:** 350 lines **Character block:** 9 x 12 dots; 9 X 14 **Character matrix:** 7 x 9 dots **Packaging:** Rack-mounted; Cabinet enclosure **Support equip:** Cables **Units sold:** 5,000 since 1985 **Cost:** $199-$225

☐ TTX1221-AG
Color monitor **Screen size:** 12 inch **Horizontal resolution:** 680 dots **Vertical resolution:** 240 lines **Introduced:** 1986 **Cost:** $589

☐ TTX1222-AG
Color monitor **Screen size:** 12 inch **Horizontal resolution:** 640 lines **Vertical resolution:** 200 lines **Introduced:** 1986 **Cost:** $695

☐ TTX1400
Monochrome monitor **Screen size:** 14 inch **Phosphor:** Amber; Green **Horizontal resolution:** 1,000 (center) **Vertical resolution:** 800 lines **Packaging:** Cabinet enclosure **Introduced:** 1986 **Cost:** $299

☐ TTX1410
Monochrome monitor **Screen size:** 14 inch **Horizontal resolution:** 640 lines **Vertical resolution:** 200 lines **Units sold:** 1,000 since 1986 **Cost:** $399

☐ TTX1411
Color monitor **Screen size:** 14 inch **Phosphor:** P22 **Horizontal resolution:** 640 lines **Vertical resolution:** 240 lines **Character matrix:** 5 x 7 dots **Packaging:** Rack-mounted; Cabinet enclosure **Support equip:** Cables **Units sold:** 10,000 since 1984 **Cost:** $579

☐ TTX1421-AG
RGB monitor **Screen size:** 14 inch **Phosphor:** P22 **Horizontal resolution:** 720 lines **Vertical resolution:** 240 lines **Character matrix:** 7 x 9 dots **Packaging:** Rack-mounted; Cabinet enclosure **Support equip:** Cables **Units sold:** 5,000 since 1984 **Cost:** $629

☐ TTX1421-LP
RGB monitor **Screen size:** 14 inch **Phosphor:** BL3; BL4 **Horizontal resolution:** 720 lines **Vertical resolution:** 480 lines **Character matrix:** 7 x 14 dots **Packaging:** Rack-mounted; Cabinet enclosure **Units sold:** 1,000 since 1985 **Cost:** $689

☐ TTX1424.39
RGB monitor **Screen size:** 14 inch **Horizontal resolution:** 720 lines **Vertical resolution:** 400 lines **Packaging:** Cabinet enclosure **Support equip:** Cables **Units sold:** 1,000 since 1985 **Cost:** $699

TW CASPER CORP.

☐ GM-1000
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P39) **Horizontal resolution:** 1,000 lines (center) **Introduced:** 1985

☐ GM-1000D
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber; Green (P39) **Horizontal resolution:** 1,000 lines (center) **Introduced:** 1985

☐ HD-55
Color monitor **Screen size:** 14 inch **Horizontal resolution:** 640 (non-interlaced) **Vertical resolution:** 240 (non-interlaced) **Introduced:** 1985

☐ HD-88
Color monitor **Screen size:** 14 inch **Horizontal resolution:** 720 **Vertical resolution:** 480 **Introduced:** 1985

WYSE TECHNOLOGY

☐ WY-530
Monochrome monitor **Screen size:** 14 inch **Horizontal resolution:** 720 dots **Vertical resolution:** 350 lines **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $235

☐ WY-630
Color monitor **Screen size:** 14 inch **Horizontal resolution:** 640 dots **Vertical resolution:** 200 lines **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $595

XTRON COMPUTER EQUIPMENT CORP.

☐ IA12X/IG12X
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Green (P39); Amber (H8) **Horizontal resolution:** 1,000 lines (center) **Vertical resolution:** 350 lines **Character block:** 9 x 14 **Character matrix:** 7 x 9 dots **Support equip:** Cables **Units sold:** 15,000 since 1984 **Cost:** $169

ZENITH DATA SYSTEMS
(subsidiary of Zenith Electronics Corp.)

☐ CV2562
Color monitor **Screen size:** 25 inch **Phosphor:** P22 **Horizontal resolution:** 450 or 640 lines **Vertical resolution:** 250 or 460 (non-interlaced) **Packaging:** Cabinet enclosure **Support equip:** (optional) cables **Introduced:** 1983 **Cost:** $729

☐ ZVM-1220
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber **Horizontal resolution:** 800 lines (center) **Character block:** 8 X 8 **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $199

☐ ZVM-1230
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Green (P31) **Horizontal resolution:** 800 lines (center) **Character block:** 8 x 8 dots **Character matrix:** 5 x 7 dots **Packaging:** Cabinet enclosure **Introduced:** 1985 **Cost:** $199

☐ ZVM-1240
Monochrome monitor **Screen size:** 12 inch **Phosphor:** Amber **Horizontal resolution:** 720 pixels **Vertical resolution:** 350 pixels **Character block:** 9 X 14 **Character matrix:** 7 x 9 dots **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1985 **Cost:** $229

☐ ZVM-1330
RGB monitor **Screen size:** 13 inch **Phosphor:** P22 **Horizontal resolution:** 640 pixels **Vertical resolution:** 240 pixels **Character block:** 9 X 10 **Character matrix:** 8 X 9 **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1985 **Cost:** $649

☐ ZVM-135
RGB monitor **Screen size:** 13 inch **Phosphor:** P22 **Horizontal resolution:** 640 pixels **Vertical resolution:** 240 lines **Packaging:** Cabinet enclosure **Introduced:** 1983 **Cost:** $599

☐ ZVM-1360
RGB monitor **Screen size:** 13 inch **Horizontal resolution:** 640 pixels **Vertical resolution:** 240 pixels (non-interlaced); 480 pixels (interlaced) **Character block:** 9 X 10 **Character matrix:** 8 X 9 **Packaging:** Cabinet enclosure **Support equip:** Cables **Introduced:** 1986 **Cost:** $799

MODEMS

VOICEBAND MODEMS (DDD NETWORK)

ABM COMPUTER SYSTEMS

☐ Bright Modem
300; 1,200 bps; Hayes compatible **Transmission:** Asynchronous **Features:** Auto answer; Auto dial; OEM board config.; Tone and pulse dialing **Introduced:** 1985 **Cost:** $199

ADC
(division of DBX)

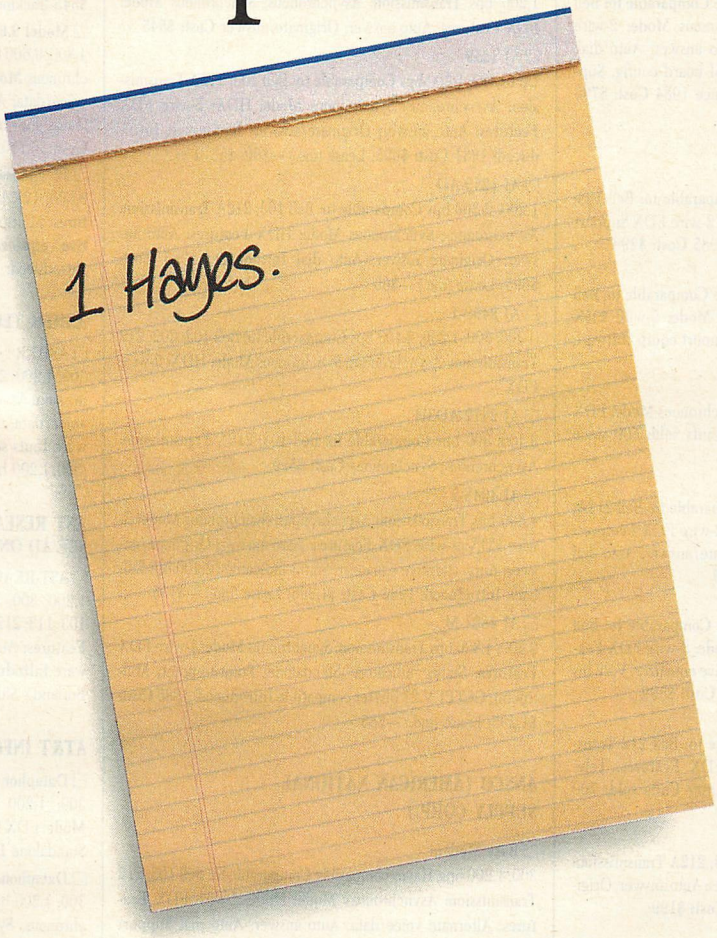
☐ Smart Duck Modem
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Standalone; Tone and pulse dialing **Cost:** $169

AMDAHL COMMUNICATIONS SYSTEMS DIVISION

☐ 1000 Series
1,200; 2,400; 4,800; 7,200; 9,600; 14.4K bps **Features:** Auto. adaptive equalizer; Status indicators; Liquid crystal display; Multipoint; Integral mux **Introduced:** 1985

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A complete list of things to know about 2400 bps modems.



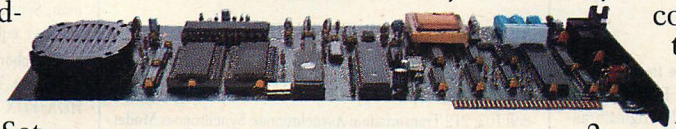
Now that you've memorized that, here's a partial list of why a Hayes® Smartmodem 2400™ is best for you.

1. The Hayes Smartmodem 2400 allows you to communicate with the vast installed-base of 300, 1200 and 2400 bps "Hayes-compatible" modems. The Hayes Standard "AT" Command Set allows you to use Smartcom II® and other software that communicates.

2. Through synchronous/asynchronous technologies, the Smartmodem 2400 permits your PC to access mainframes, minis, and on-line services previously inaccessible through asynchronous-only modems.

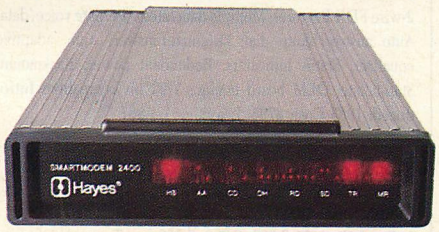
3. The Hayes Smartmodem 2400 is efficient...it pays for itself in just 4 hours of annual use over long distance.

4. The technology of the Smartmodem 2400 allows you to transfer volumes of files with confidence across the city or across the ocean using Bell and CCITT standards.



5. The new Smartmodem 2400B™—a plug-in board for the IBM PC and compatibles—allows synchronous and asynchronous communication through the same Com port.

6. You will also get the Hayes standard 2-year limited warranty and the opportunity to extend the warranty to 4 years.



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AMERICAN COMPUTER AND PERIPHERAL, INC.

☐ AM1200B
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 4-wire FDX; 2-wire FDX **Features:** Auto dial

AMERICAN TELEPROCESSING CORP.

☐ Proto.Call
50; 110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 108; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Originate/answer; Status indicators; OEM board config. **Support equip** Software **Units sold:** 1,100 since 1984 **Cost:** $795

ANCHOR AUTOMATION, INC.

☐ Express i
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Support equip** Software **Units sold:** 1,500 since 1985 **Cost:** $299

☐ Lightning i
0-300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** CCITT V.22 bis compatible **Support equip** Software **Units sold:** 500 since 1985 **Cost:** $499

☐ Signalman Error-Free
300; 1,200; 2,400 bps **Transmission:** Asynchronous **Mode:** FDX **Features:** Standalone; Error correction **Units sold:** 500 since 1985 **Cost:** $199

☐ Signalman Express
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Originate/answer; Auto dial **Units sold:** 35,000 since 1985 **Cost:** $399

☐ Signalman Lightning 24
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Auto. adaptive equalizer; V.22 bis compatible **Units sold:** 1,400 since 1985 **Cost:** $599

☐ Signalman Secure 12
1,200 bps; Hayes compatible **Comparable to:** Bell 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Telephone number directory; Dial-back security **Units sold:** 700 since 1985 **Cost:** $499

☐ Volks Mini
0-300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate only **Units sold:** 1,000 since 1986 **Cost:** $199

☐ Volks Omega 80
300; 1,200 bps **Cost:** $199

☐ Volksmodem 12
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Originate/answer; Auto dial **Units sold:** 80,000 since 1984 **Cost:** $299

ANDERSON JACOBSON, INC.

☐ AJ Connection (AJ 1212-2B01/2H01)
Reviewed Sep 1985 p. 60.
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Originate/answer; Status indicators; Tone and pulse dialing; Telephone number storage **Support equip** Software **Introduced:** 1984 **Cost:** $545

☐ AJ Connection II
0-300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212; 202S **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Tone and pulse dialing; CCITT V.22 bis compatible **Support equip** Software **Introduced:** 1986 **Cost:** $650

☐ AJ 1212-AD2
0-300; 1,200 bps **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Auto dial; 16 telephone number storage; Auto log-on **Introduced:** 1984 **Cost:** $695

☐ AJ 1212-AD3H
300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Introduced:** 1986 **Cost:** $499

☐ AJ 1212-ST
300; 1,200 bps **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer; Status indicators **Introduced:** 1984 **Cost:** $495

☐ AJ 1256
1,200 bps **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Originate/answer **Cost:** $545

☐ AJ 1259
Up to 300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Originate/answer; Rackmount **Introduced:** 1981 **Cost:** $695; Lease (mo.) —$60; $55 (1 yr.)

☐ AJ 1259-AD
1,200; 0-300 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX **Features:** Auto answer; Originate/answer; Auto dial **Introduced:** 1983 **Cost:** $695; Lease (mo.) —$60

☐ AJ 2400-T
0-300; 600; 1,200; 2,400 bps **Comparable to:** Bell 103; 202; 212 **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX

☐ AJ 2412-AD3H
2,400; 300 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Cost:** $599

☐ AJ 4048-2
4,800 bps **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX; 4-wire FDX **Features:** Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators; 2,400 bps fallback **Introduced:** 1982 **Cost:** $1,995; Lease (mo.) —$135

☐ AJ 4801-M
2,400; 4,800 bps **Transmission:** Synchronous **Mode:** 4-wire FDX **Features:** Status indicators; Standalone; Point-to-point; Multipoint; CCITT V.27 bis/ter compatible **Introduced:** 1985 **Cost:** $1,295; Lease (mo.) —$85

ANSCO (AMERICAN NATIONAL SUPPLY CORP.)

☐ Easy Modem
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Alternate voice/data; Auto answer; Auto dial **Support equip** Cables **Introduced:** 1985 **Cost:** $299

☐ Lightning
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 224; 212; 103 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Standalone **Introduced:** 1985 **Cost:** $599

AREA NETWORK PRODUCTS, INC.

☐ 2400 DSM
300; 1,200; 2,400; 4,800 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Originate/answer; Auto. adaptive equalizer; Status indicators; Redundant power; Rackmount; Standalone; OEM board config.; V.22 bis compatible **Introduced:** 1985 **Cost:** $795; Lease (mo.) —$87

ARK ELECTRONIC PRODUCTS, INC.

☐ ARK Series 16.0
16K; 14.4K; 12K; 9,600; 8,000; 7,200 bps **Transmission:** Synchronous **Mode:** FDX **Features:** Auto. adaptive equalizer; Status indicators; Rackmount; Standalone **Cost:** $3,750

☐ ARK 24K (for the IBM PC)
300; 600; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103J; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; ARQ error-free data **Introduced:** 1985 **Cost:** $545

☐ ARK 24K Plus
300; 600; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103J; 113 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Rackmount; Standalone; ARQ error-free data; CCITT V.22 bis compatible **Units sold:** 7,500 since 1985 **Cost:** $595 (standalone); $545 (rackmount)

☐ Model 9.6/208B
4,800; 9,600 bps **Comparable to:** Bell 208B **Transmission:** Asynchronous **Mode:** HDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone **Introduced:** 1986 **Cost:** $2,160

☐ 12 Thousand Dial
9,600; 12K bps **Transmission:** Synchronous **Mode:** HDX **Features:** Multiple data rates; Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone **Introduced:** 1986 **Cost:** $2,900

ASHER TECHNOLOGIES, INC.

☐ ASHER
300; 1,200; 2,400 bps **Comparable to:** Bell 103A; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto dial; Originate/answer **Support equip** Software **Units sold:** 4,000 since 1984 **Cost:** $495 (300 bps); $595 (300/1,200 bps); $795 (300/1,200/2,400 bps)

AST RESEARCH, INC.

SEE AD ON PAGES 161/172/173/174/175

☐ AST-REACH
1,200; 300; 110 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto dial; Auto answer **Support equip** Cables; Software **Introduced:** 1984 **Cost:** $549 (includes Crosstalk XVI and Borland's Sidekick desktop management software)

AT&T INFORMATION SYSTEMS

☐ Dataphone II Set 2212C
300; 1,200 bps **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone **Introduced:** 1985 **Cost:** $549

☐ Dataphone II Set 2212D
300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Rackmount **Introduced:** 1985 **Cost:** $449

☐ Dataphone II Set 2224
0-300; 1,200; 2,400 bps **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto. adaptive equalizer; Auto dial; Rackmount; Standalone; CCITT V.22 bis compatible **Introduced:** 1984 **Cost:** $1,325

☐ Dataphone II Set 2224B
2,400 bps **Comparable to:** Bell 212AR **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto. adaptive equalizer; Standalone **Introduced:** 1984 **Cost:** $999

☐ Dataphone II Set 2248A
4,800 bps **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Rackmount; Standalone; Auto. adaptive equalizer; CCITT V.32 compatible **Introduced:** 1985 **Cost:** $2,995

☐ Model 103JR
300 bps **Comparable to:** Bell 103JR **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Standalone; Auto-call interface for Bell System 801-type ACU **Introduced:** 1980

☐ Model 4000
300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto dial; Standalone; Tone and pulse dialing **Introduced:** 1985 **Cost:** $500

☐ **Model 4024**
300; 1,200; 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Standalone; Auto. adaptive equalizer; Tone and pulse dialing; CCITT V.22 bis compatible **Introduced:** 1986 **Cost:** $750

☐ **Model 4112**
75-300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; OEM board config.; Tone and pulse dialing **Introduced:** 1986 **Cost:** $489

☐ **201C-L1D-Dataphone 2400**
2,400 bps **Comparable to:** Bell 201C **Transmission:** Synchronous **Mode:** HDX **Features:** Auto answer **Introduced:** 1978

☐ **201CR-Dataphone 2400**
2,400 bps **Comparable to:** Bell 201CR **Transmission:** Synchronous **Mode:** HDX **Features:** Auto answer; Standalone; Auto-call interface for Bell System 801-type ACU **Introduced:** 1979

☐ **202SR-Dataphone 1200**
Up to 1,200 bps **Comparable to:** Bell 202SR **Transmission:** Asynchronous **Mode:** HDX **Features:** Reverse channel; Auto answer; Auto-call interface for Bell System 801-type ACU **Introduced:** 1979

☐ **208BR-Dataphone 4800**
4,800 bps **Comparable to:** Bell 208BR **Transmission:** Synchronous **Mode:** HDX **Features:** Auto answer; Auto. adaptive equalizer; Rackmount; Auto-call interface for Bell System 801-type ACU **Introduced:** 1979

☐ **212AR-Dataphone 300/1200**
Up to 300; 1,200 bps **Comparable to:** Bell 212AR **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto-call interface for Bell System 801-type ACU; Auto baud sensing **Introduced:** 1979

AUTOMATED TECHNOLOGY, INC.

☐ **Model 695**
300; 600; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103J; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Rackmount; Standalone **Support equip** Cables **Units sold:** 2,750 since 1984 **Cost:** $895

AVANT INDUSTRIES, INC.

☐ **I-18**
300; 1,200 bps **Mode:** FDX **Cost:** $170

BCH EQUIPMENT CORP.

☐ **Model 48/208AB**
4,800; 2,400 bps **Comparable to:** Bell 208A/B; 201C **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Alternate voice/data; Auto answer; Auto. adaptive equalizer; Rackmount; DDD capability; Auto disconnect; Point-to-point; Multipoint; Auto speed detect **Units sold:** 1,400 since 1980 **Cost:** $1,295-$1,495

☐ **Model 48/27**
4,800; 2,400 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Alternate voice/data; Auto. adaptive equalizer; Rackmount; Private line capability; Point-to-point; Multipoint; V.27 bis/ter compatible; Auto answer/disconnect **Units sold:** 1,000 since 1977 **Cost:** $1,395

BIZCOMP CORP.

☐ **IntelliModem EXT**
110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Status indicators; Standalone; Auto redial **Introduced:** 1985 **Cost:** $499

☐ **IntelliModem PC**
110; 300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto dial; Alternate voice/data; Auto answer; IBM PC, XT compatible; Includes communications software; Audio monitor; On-line telephone directory; Telephone line status detection and reporting **Support equip** Software **Introduced:** 1983 **Cost:** $499

☐ **IntelliModem ST**
110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial **Support equip** Software **Introduced:** 1984 **Cost:** $499

☐ **IntelliModem XL**
110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial **Support equip** Software **Introduced:** 1984 **Cost:** $549

☐ **IntelliModem XT**
Reviewed Sep 1985 p. 60.
110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial **Support equip** Software **Introduced:** 1984 **Cost:** $549

☐ **IntelliModem 1012**
110; 300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Originate/answer; Auto answer; Auto dial; Standalone; Program-selectable data rates; Auto repeat dial; Automatic log-on message **Introduced:** 1982 **Cost:** $549

BLACK BOX CORP.

☐ **Modem 1200H**
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Features:** Auto answer; Auto dial; Originate/answer; Status indicators; Standalone; Auto disconnect **Cost:** $299

☐ **Modem 201B/C**
2,400 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Cost:** $685

☐ **Modem 208A/B**
4,800 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Cost:** $1,450

☐ **Modem 2400**
2,400; 1,200 bps **Comparable to:** Bell 212A; 201 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Multiple data rates; Originate only; Rackmount; Standalone; CCITT V.26 compatible **Introduced:** 1984 **Cost:** $795 (standalone); $745 (PC card); $825 (sync)

☐ **Modem 2400+**
1,200; 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Status indicators; Rackmount; Standalone; Auto log-on; V.22 bis compatible **Cost:** $895

☐ **Modem 2400/1200**
2,400; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Cost:** $660-$785

☐ **Modem 300**
300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Features:** Originate/answer **Cost:** $70

☐ **Modem 300 Auto Answer**
300; Up to 600 bps **Comparable to:** Bell 113; 103 **Transmission:** Asynchronous **Features:** Auto answer; Auto disconnect **Cost:** $100

☐ **Modem 9600**
9,600; 7,200; 4,800 bps **Transmission:** Synchronous **Mode:** 4-wire FDX **Features:** Multiple data rates; Status indicators; Point-to-point **Introduced:** 1984 **Cost:** $1,995

☐ **Modem 9600 A/B**
4,800; 7,200; 9,600 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Cost:** $1,995

☐ **Modem 9600 V.29+**
4,800; 7,200; 9,600 bps **Transmission:** Synchronous **Mode:** 2-wire FDX; 4-wire FDX **Features:** Multiple data rates; Status indicators; Standalone; Point-to-point; Multipoint **Cost:** $2,295

BRITRONICS, INC.

☐ **JC-1200A**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone; Tone and pulse dialing

☐ **JC-1201A**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; OEM board config.; Tone and pulse dialing

BURROUGHS CORP.

☐ **CP 1004**
4,800 bps **Transmission:** Synchronous **Mode:** HDX; 2-wire FDX; 4-wire FDX **Features:** Status indicators; Fallback to 2,400 bps; Point-to-point; Multipoint; Optional 2-port mux **Cost:** $3,-000; Lease (mo.) — $172

☐ **TA 1203**
1,200 bps **Comparable to:** Bell 202 **Transmission:** Asynchronous **Mode:** HDX **Features:** Auto answer; Originate/answer **Cost:** $1,012; Lease (mo.) —$32

☐ **TA 1801**
600; 1,200; 1,800 bps **Transmission:** Asynchronous **Mode:** HDX; 4-wire FDX **Features:** Originate/answer **Cost:** $1,063; Lease (mo.) —$33

☐ **TA 1802**
1,200; 1,800 bps **Transmission:** Asynchronous **Mode:** HDX; 4-wire FDX **Features:** Multiport capability **Cost:** $1,179; Lease (mo.) —$44

☐ **TA 2401**
1,200; 2,400 bps **Comparable to:** Bell 201B/C **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Cost:** $1,444; Lease (mo.) —$68

☐ **TA 2403**
1,200; 2,400 bps **Comparable to:** Bell 201B/C **Transmission:** Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer **Cost:** $1,675; Lease (mo.) — $86

BYTCOM, INC.

☐ **Model 212AD**
0-300; 1,200 bps **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Reverse channel; Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Rackmount; Standalone; OEM board config.; Name and telephone number storage **Units sold:** 10,000 since 1983 **Cost:** $275

☐ **212 Contac**
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Rackmount; Standalone; OEM board config.; Name and telephone number storage; CCITT V.21, V.23 compatible **Units sold:** 1,200 since 1985 **Cost:** $300

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☐ **24/12 Contac Plus**
0-300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Rackmount; Standalone; OEM board config.; CCITT V.22 compatible; 10 telephone number storage **Units sold:** 1,000 since 1985 **Cost:** $389

CARTERFONE COMMUNICATIONS CORP.
(subsidiary of Cable & Wireless)

☐ **Adcomm 96/48-H**
Up to 19.2K bps **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Reverse channel; Secondary channel; Alternate voice/data; Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators; Standalone; Data compaction; Character compression; Built-in auto call; Line quality monitoring **Units sold:** 500 since 1985 **Cost:** $1,695; Lease (mo.) —$99

☐ **Personal Communications Controller**
0-1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Multiple data rates; Auto answer; Originate/answer; Status indicators; Auto dial; Standalone; Tone and pulse dialing; 9 telephone number storage; Clock/calendar **Units sold:** 50 since 1985 **Cost:** $995; Lease (mo.) —$40

CASE COMMUNICATIONS, INC.

☐ **PC212A**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto dial; Auto answer **Support equip** Software **Introduced:** 1983 **Cost:** $499-$539

☐ **R103J**
Up to 300 bps **Comparable to:** Bell 103; 113; 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Rackmount; Standalone; Alternate voice/data; Auto answer; Originate/answer; Primarily designed for small business and personal computers **Support equip** Software **Introduced:** 1982 **Cost:** $249

☐ **R1224**
Up to 300 Async; Sync 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Alternate voice/data; Auto dial; Rackmount; Standalone; Tone and pulse dialing **Support equip** Software **Introduced:** 1984 **Cost:** $649

☐ **R201C**
2,400 bps **Comparable to:** Bell 201C **Transmission:** Synchronous **Mode:** HDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Auto dial **Support equip** Software **Introduced:** 1983 **Cost:** $699

☐ **R212A**
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Originate/answer; Auto answer **Support equip** Software **Introduced:** 1982 **Cost:** $699

☐ **R212A Executive**
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Originate/answer; Status indicators; Auto dial; Log-on; Speaker monitor; Manual controls **Support equip** Software **Introduced:** 1984 **Cost:** $499

☐ **R212A Intelligent**
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto dial; Auto answer; Originate/answer; Controlled from terminal; Log-on **Support equip** Software **Introduced:** 1983 **Cost:** $425

☐ **TA201C**
2,400 bps **Comparable to:** Bell 201C **Transmission:** Synchronous **Mode:** 4-wire FDX; HDX **Features:** Alternate voice/data; Auto answer; Originate/answer; 801 ACU compatible **Support equip** Software **Introduced:** 1980 **Cost:** $999

☐ **TA208A/B**
4,800 bps **Comparable to:** Bell 208A/B **Transmission:** Synchronous **Mode:** 4-wire FDX; HDX **Features:** Auto answer; Alternate voice/data; Originate/answer; 801 ACU compatible **Support equip** Software **Introduced:** 1982 **Cost:** $1,895

☐ **T103J**
Up to 300 bps **Comparable to:** Bell 103; 113; 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; 801 ACU compatible **Support equip** Software **Introduced:** 1978 **Cost:** $599

☐ **T202S**
Up to 1,200 bps **Comparable to:** Bell 202 **Transmission:** Asynchronous **Mode:** HDX **Features:** Reverse channel; Originate/answer; Alternate voice/data; Auto answer; 801 ACU compatible **Support equip** Software **Introduced:** 1975 **Cost:** $699-$849

☐ **T212A**
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; 801 ACU compatible **Support equip** Software **Introduced:** 1977 **Cost:** $1,049

☐ **6021 Grapevine**
0-19.2K Async; Sync 2,400; 4,800; 9,600; 19.2K bps **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Status indicators; Rackmount; Standalone; Simultaneous data and voice

CERMETEK MICROELECTRONICS, INC.

☐ **Cermetek Security Modem**
110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Password and call-back access security **Support equip** Cables **Introduced:** 1984 **Cost:** $495

☐ **Cermetek 1200**
110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Tone dialing **Support equip** Cables **Introduced:** 1984 **Cost:** $395

☐ **Cermetek 1200SPC**
110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial **Support equip** Software **Introduced:** 1984 **Cost:** $495 (includes software)

☐ **Cermetek 2400**
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Standalone **Support equip** Cables **Introduced:** 1985 **Cost:** $645

☐ **Cermetek 2400 Security Modem**
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Originate/answer; Status indicators; Standalone; Tone dialing; CCITT V.22, V.22 bis compatible **Introduced:** 1986 **Cost:** $745

☐ **Cermetek 2400EP**
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Originate/answer; Status indicators; Standalone; Tone dialing; CCITT V.22, V.22 bis compatible **Introduced:** 1985 **Cost:** $795

☐ **Cermetek 2400SPC**
2,400; 1,200; 300 bps **Comparable to:** Bell 103; 212A **Introduced:** 1986

☐ **CH1765**
110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial **Introduced:** 1984 **Cost:** $520

☐ **CH1770**
110; 300; 1,200 bps **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer; Auto speed and parity selection; Tone and pulse dialing **Introduced:** 1984 **Cost:** $399

☐ **INFO-MATE 212A**
110; 300; 1,200 bps **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; 52-number/Log-on message storage; DTMF or pulse dialing; Auto speed and parity select; Electronic call progress tone detection **Introduced:** 1983 **Cost:** $595

☐ **Model 1200V**
110; 300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; **Introduced:** 1986 **Cost:** $595

CLEO SOFTWARE
(a division of Phone 1, Inc.)

☐ **SYNCmodem**
2,400 bps **Comparable to:** Bell 201 **Transmission:** Synchronous **Mode:** HDX **Features:** Auto answer; Auto dial; Tone and pulse dialing **Support equip** Software **Units sold:** 1,100 since 1985 **Cost:** $1,595 (includes software)

CODE-A-PHONE CORP.

☐ **Tel-A-Modem**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Originate/answer; Status indicators; Standalone; Simultaneous voice/data **Units sold:** 2,000 since 1984 **Cost:** $595

CODEX CORP.
(subsidiary of Motorola, Inc.)

☐ **Model 2231**
1,200; 2,400 bps **Comparable to:** Bell 212 (fallback) **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** V.22 bis compatible **Introduced:** 1983

☐ **Model 2233**
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; Integral ACU (auto-call unit); Telephone number storage; Auto redial **Introduced:** 1986 **Cost:** $445

☐ **Model 2250**
4,800 bps **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Introduced:** 1986 **Cost:** $2,995

☐ **Model 2260**
4,800; 9,600 bps **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Introduced:** 1986 **Cost:** $3,495

☐ **Model 2270**
0-300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Status indicators; Rackmount; Standalone; 9 telephone number storage

☐ **Model 2280**
0-300; 1,200; 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; CCITT V.22, V.22 bis compatible

☐ Model 5208R
4,800 bps **Comparable to:** Bell 208A/B **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Cost:** $1,495

☐ MX-2400
1,200; 2,400 bps **Comparable to:** Bell 201B/C **Transmission:** Synchronous **Mode:** 4-wire FDX; HDX **Features:** Multiple data rates; Secondary channel; Alternate voice/data; Adaptive and statistical equalizer; 2-ch. mux; Auto-call unit; Optional async; V.26 bis compatible **Units sold:** 35,000 since 1979 **Cost:** $1,275; Lease (mo.) —$50 (2 yr.)

COHERENT COMMUNICATIONS SYSTEMS CORP.

☐ DAM-5D
DDD up to 1,200; C2 3002 1,800 bps **Comparable to:** Bell 202 **Transmission:** Asynchronous **Mode:** HDX; 4-wire FDX **Features:** Auto answer; Status indicators **Introduced:** 1972 **Cost:** $500

☐ FSM-73B
Up to 300 bps **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Status indicators; Rackmount **Introduced:** 1984 **Cost:** $395

☐ FSM-83 DDD/Telex
Up to 300 bps **Comparable to:** Bell 103J **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto answer; Status indicators; ASCII to Baudot speed/code conversion **Introduced:** 1983 **Cost:** $498

☐ SPM-94A
Up to 300 bps **Transmission:** Asynchronous **Mode:** HDX **Features:** Originate/answer; Status indicators; Simultaneous data/voice **Units sold:** 200 since 1983 **Cost:** $525

☐ SPM-94B
Up to 300 bps **Transmission:** Asynchronous **Mode:** FDX **Features:** Originate/answer; Status indicators; Simultaneous data/voice **Introduced:** 1984 **Cost:** $575

☐ SPM-94C
1,200 bps **Transmission:** Asynchronous; Synchronous **Mode:** HDX **Features:** Alternate voice/data; Status indicators; Point-to-point; Multipoint **Introduced:** 1986

COMDATA CORP.

☐ Model C200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial **Introduced:** 1986 **Cost:** $577

☐ Model 1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer; Status indicators; Integral voice/data switch **Introduced:** 1985 **Cost:** $197

☐ Model 332E2-12L
1,200 bps **Comparable to:** Bell 202 **Transmission:** Asynchronous **Mode:** HDX; 4-wire FDX **Features:** Reverse channel; Status indicators; Rackmount **Introduced:** 1974 **Cost:** $187

COMPUTER COMMUNICATIONS SPECIALISTS, INC.

☐ CCS Audio Response Modem
1,200 bps **Comparable to:** Bell 202S **Transmission:** Asynchronous **Mode:** HDX **Features:** 400-word vocabulary voice synthesis **Support equip** Software **Units sold:** 200 since 1982 **Cost:** $4,895 (first line); $2,895 (subsequent lines)

COMPUTER FRIENDS

☐ Mercury 103/212A
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone; Tone and pulse dialing **Cost:** $205

COMPUTER LOGICS LTD., INC.

☐ SYNCSMART
2,400 bps **Comparable to:** Bell 201C **Transmission:** Synchronous **Mode:** HDX **Features:** Auto answer; Auto dial; OEM board config.; Tone and pulse dialing

COMSPEC, INC.

☐ Model 9600C
9,600; 7,200; 4,800; 2,400 bps **Transmission:** Synchronous **Mode:** 4-wire FDX; HDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; Auto dial backup; Auto fallback; Auto fall forward **Units sold:** 600 since 1983 **Cost:** $3,495

CONCORD DATA SYSTEMS, INC.

☐ CDS V.32 Trellis
4,800; 9,600 bps **Mode:** 2-wire FDX **Features:** Standalone **Introduced:** 1986

☐ CDS 224
2,400 bps **Comparable to:** Bell 2224 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators; 1,200 bps fallback; Front panel sync/async switch **Units sold:** 20,000 since 1982 **Cost:** $450

☐ CDS 224 AD
2,400 bps **Comparable to:** Bell 2224 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators; Auto dial; 1,200 bps fallback; Front panel sync/async switch **Units sold:** 10,000 since 1983 **Cost:** $495

☐ CDS 224 ARQ
2,400 bps **Comparable to:** Bell 2224 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators; 1,200 bps fallback; Error correction **Units sold:** 500 since 1984 **Cost:** $935

☐ CDS 224 ARQ/AD
2,400 bps **Comparable to:** Bell 2224 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators; Auto dial; 1,200 bps fallback; Error correction **Units sold:** 500 since 1984 **Cost:** $975

☐ CDS 224 PC
300; 1,200; 2,400 bps; Hayes compatible **Features:** OEM board config. **Introduced:** 1985 **Cost:** $695

☐ CDS 224 Super Duplex
2,400 bps **Comparable to:** Bell 2224 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Originate/answer; Auto. adaptive equalizer; Status indicators; 1,200 bps fallback; Front panel sync/async switch; Built-in 3-port statistical multiplexor with error correction **Introduced:** 1983 **Cost:** $1,695

☐ CDS 224 Trispeed
300; 1,200; 2,400 bps **Transmission:** Asynchronous; Synchronous **Features:** Auto dial; Auto. adaptive equalizer; Rackmount; OEM board config.; Speed sense; Tone and pulse dialing; Auto redial **Introduced:** 1985 **Cost:** $775-$795

☐ Series II
300; 1,200; 2,400 bps; Hayes compatible **Features:** Standalone **Introduced:** 1985 **Cost:** $595

☐ V.22
1,200 bps **Comparable to:** Bell 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer; Auto. adaptive equalizer; 600 bps fallback **Units sold:** 10,000 since 1981 **Cost:** $695

☐ V.22 bis
2,400 bps **Comparable to:** Bell 2224 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators **Units sold:** 10,000 since 1982 **Cost:** $695

CONTRIVER ENTERPRISE CO., LTD.

☐ MF-MOD
300; 1,200 bps **Introduced:** 1986 **Cost:** $499

☐ SM1200I
110; 300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Introduced:** 1986 **Cost:** $429

☐ 1200HCI
300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Introduced:** 1986 **Cost:** $189

CREATIVE DIGITAL, INC.

☐ Mercury Fastmodem
0-300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103A; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer **Support equip** Cables; Software; manuals **Introduced:** 1986 **Cost:** $499

☐ Mercury Fastmodem 1200B
1,200; 300 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Introduced:** 1986 **Cost:** $299

☐ Mercury Fastmodem 2400B
2,400; 1,200; 300 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Introduced:** 1985 **Cost:** $495

☐ Mercury 12006
0-300; 1,200 bps **Comparable to:** Bell 103A; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Introduced:** 1986 **Cost:** $349

CTS FABRI-TEK, INC.
DATACOMM Products Division

☐ Half-Pak 12
1,200; 600; 300; 150; 110 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Originate/answer; Status indicators; OEM board config.; Auto baud rate and parity detector **Support equip** Software **Introduced:** 1985 **Cost:** $295

☐ Half-Pak 24
2,400; 1,200; 600; 300; 110 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto answer; Auto dial; OEM board config.; CCITT V.22 bis compatible **Support equip** Software **Introduced:** 1985 **Cost:** $395

☐ Model 2424AD
2,400; 1,200; 600; 300; 110 bps **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators; Auto dial; CCITT V.22 bis compatible; 10 telephone number storage **Introduced:** 1985 **Cost:** $395

☐ Series 828-Custom OEM
300; 1,200 bps **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Auto dial; OEM board config.; Auto speed detection; Tone and pulse dialing

☐ 212AHC
1,200; 600; 300; 150; 110 Async; Sync 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Originate/answer; Status indicators; Rackmount; Standalone; OEM board config.; Auto baud rate and parity detector **Introduced:** 1984 **Cost:** $295

☐ 212AT
110; 150; 300; 600; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Originate/answer; Auto speed detection; Tone and pulse dialing

☐ 212RM
110; 300; 600; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX; 4-wire FDX **Features:** Auto answer; Auto dial; Rackmount **Introduced:** 1986 **Cost:** $295

☐ 2424ADH
2,400; 1,200; 600; 300; 110 bps; Hayes compatible **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Auto. adaptive equalizer; CCITT V.22 bis compatible; 10 telephone number storage **Introduced:** 1985 **Cost:** $395

☐ 2424RM
110; 300; 600; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX; 4-wire FDX **Features:** Auto answer; Auto dial; Auto. adaptive equalizer; Rackmount; CCITT V.22 bis compatible **Introduced:** 1986 **Cost:** $395

DATA RACE, INC.

☐ RACE AF I
1,200; 2,400; 4,800; 9,600; 19.2K bps **Transmission:** Asynchronous **Mode:** 2-wire FDX **Introduced:** 1986 **Cost:** $1,645

☐ RACE AF II
1,200; 2,400; 4,800; 9,600; 19.2K bps **Transmission:** Asynchronous **Mode:** 2-wire FDX **Introduced:** 1986 **Cost:** $1,845

☐ RACE I
1,200; 2,400; 4,800; 9,600; 19.2K bps; Hayes compatible **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto dial; Auto. adaptive equalizer; Standalone; Error correction; Tone and pulse dialing **Support equip** Cables **Units sold:** 1,000 since 1985 **Cost:** $1,495

☐ RACE II
1,200; 2,400; 4,800; 9,600; 19.2K bps; Hayes compatible **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto dial; Standalone; Auto. adaptive equalizer; Error correction; Tone and pulse dialing **Support equip** Cables **Units sold:** 500 since 1985 **Cost:** $1,695

DATAGRAM

☐ DCE224
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 224 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX; HDX **Features:** Multiple data rates; Auto answer; Originate/answer; Error correction **Units sold:** 500 since 1984 **Cost:** $795

DATALINK READY, INC.

☐ Model 24K Plus
2,400; 1,200; 600 Sync; Async 0-300; 600; 1,200; 2,400 bps **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous; Synchronous **Features:** Auto answer; Originate/answer; Auto. adaptive equalizer; Tone and pulse dialing **Cost:** $595 (standalone); $525 (rackmount)

☐ VM-24
2,400; 1,200 bps **Transmission:** Asynchronous; Synchronous **Features:** Auto. adaptive equalizer; Standalone; Point-to-point; Multipoint **Cost:** $700

☐ VM-48
4,800; 2,400 bps **Transmission:** Asynchronous; Synchronous **Features:** Auto. adaptive equalizer; Standalone; Point-to-point; Multipoint; 4-ch. mux **Cost:** $1,400

☐ VM-96
9,600; 7,200; 4,800 bps **Transmission:** Asynchronous; Synchronous **Features:** Auto. adaptive equalizer; Standalone; Point-to-point; Multipoint; 4-ch. mux **Cost:** $1,900

☐ 12 Thousand Dial
12K; 9,600 bps **Comparable to:** Bell 208 **Transmission:** Synchronous **Mode:** HDX **Introduced:** 1986

DATAPORT/CS

☐ Internal Modem
300; 1,200; 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Cost:** $275

DATEC, INC. (NC)

☐ Datec PAL Plus
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto dial; Originate/answer; Auto speed and parity detection **Support equip** Software **Introduced:** 1983 **Cost:** $499 (includes software)

☐ Datec PAL 212
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Alternate voice/data; Originate/answer; Status indicators; Auto dial; Standalone **Introduced:** 1983 **Cost:** $399

☐ Model 212SA
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Originate/answer; Status indicators; Standalone; 10 telephone number storage; Tone and pulse dialing; Auto log-on; Auto redial **Cost:** $499

☐ Model 212SB
0-300; 1,200 bps **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Originate/answer; Status indicators; Rackmount; Standalone; Tone and pulse dialing; 3 telephone number storage **Cost:** $599

☐ Model 212SC
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Originate/answer; Status indicators; Rackmount; Standalone; 20 telephone number storage; Tone and pulse dialing; Auto log-on; Auto redial **Cost:** $579

☐ Model 212SD
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Originate/answer; Status indicators; Rackmount; Standalone; 27 telephone number storage; Tone and pulse dialing; Auto log-on; Auto redial **Cost:** $599

☐ Model 224KR
Up to 300; 1,200; 2,400 bps **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Originate/answer; Status indicators; Rackmount; Standalone; Tone and pulse dialing; CCITT V.22, V.22 bis compatible **Introduced:** 1985 **Cost:** $699

☐ Model 224KS
Up to 300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Auto dial; Rackmount; Standalone; CCITT V.22, V.22 bis compatible; 3 telephone number storage **Introduced:** 1985 **Cost:** $799

☐ Model 224KT
Up to 300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Auto dial; CCITT V.22, V.22 bis compatible; 3 telephone number storage **Introduced:** 1985 **Cost:** $899

DECATEK, INC.

☐ ZIPmodem
9,600; 7,200; 4,800; 2,400 bps **Transmission:** Synchronous **Mode:** HDX **Features:** Standalone; OEM board config.; Integral SNA/SDLC protocol converter; On-board processor **Support equip** Cables; Software **Introduced:** 1985 **Cost:** $2,995; $1,995 (mainframe version)

DEVELCON ELECTRONICS

☐ Model 201B
2,400 bps **Comparable to:** Bell 201B **Transmission:** Synchronous **Mode:** 4-wire FDX **Features:** Status indicators **Units sold:** 3,000 since 1983 **Cost:** $650

☐ Model 201C
2,400 bps **Comparable to:** Bell 201C **Transmission:** Synchronous **Mode:** *HDX*; 4-wire FDX

☐ Model 208A/B
4,800 bps **Comparable to:** Bell 208A/B **Transmission:** Synchronous **Mode:** HDX; 2-wire FDX; 4-wire FDX **Features:** Auto answer; Auto. adaptive equalizer **Units sold:** 800 since 1983 **Cost:** $1,650

☐ Model 8212A
300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer; Status indicators; Auto dial **Units sold:** 1,000 since 1984 **Cost:** $445

DIGITAL COMMUNICATIONS ASSOCIATES, INC. (DCA)

☐ FASTLINK
300; 1,200; 2,400; 8K bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Auto. adaptive equalizer; Standalone; Automatic error detection and correction **Introduced:** 1985 **Cost:** $2,395 (standalone); $1,995 (modem card)

DIGITAL EQUIPMENT CORP.

☐ DF104
Split speed 150/2,400 bps **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Status indicators; Redundant power; Auto dial; Rackmount; Standalone; Multiple data rates; Secondary channel; Alternate voice/data; Auto answer; Originate/answer; 75-1,200 bps fallback **Introduced:** 1984 **Cost:** $545-$745

☐ DF112
300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto dial; Rackmount; Standalone; Multiple data rates; Alternate voice/data; Auto answer; Originate/answer; Status indicators; Redundant power; Tone and pulse dialing **Introduced:** 1984 **Cost:** $745

☐ DF124
1,200; 2,400 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Originate/answer; Rackmount; Standalone; CCITT V.22 bis compatible; 5 telephone number storage; Tone and pulse dialing **Introduced:** 1985 **Cost:** $1,045

☐ DF126
2,400 bps **Comparable to:** Bell 201B/C **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 4-wire FDX **Features:** Auto dial; Rackmount; Standalone; Multiple data rates; Alternate voice/data; Auto answer; Originate/answer; Status indicators; Redundant power; 1,200 bps fallback **Introduced:** 1984 **Cost:** $895

☐ Scholar
2,400; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Originate/answer; Auto. adaptive equalizer; CCITT V.22 bis compatible; 15 telephone number storage; Tone and pulse dialing **Introduced:** 1985 **Cost:** $895

☐ VT220 Internal Modem
300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Cost:** $395

DIGITAL PATHWAYS, INC.

☐ Model 250
300; 1,200; 2,400 bps; Hayes compatible **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Auto dial; Tone and pulse dialing; 10 telephone number storage; V.22 bis compatible **Units sold:** 100 since 1985 **Cost:** $345 (includes MITE software)

☐ Model 300
110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto dial; Originate/answer **Units sold:** 250 since 1984 **Cost:** $295

DOWTY INFORMATION SYSTEMS
(division of Dowty RFL Industries, Inc.)

☐ QUATTRO
75-2,400 bps; Hayes compatible **Comparable to:** Bell 2224; 212A; 103; 202 **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Standalone; CCITT V.22 bis compatible; 8 telephone number storage; Tone and pulse dialing **Units sold:** 4,000 since 1986 **Cost:** $695

E + E DATACOMM

☐ Avatex 1200
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Originate/answer; Standalone; Auto answer; Tone and pulse dialing **Units sold:** 35,000 since 1985 **Cost:** $200

☐ Model 1200HC
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Standalone; Tone and pulse dialing **Introduced:** 1986 **Cost:** $259

EF INDUSTRIES

☐ DTC Tel-Com
Up to 300; 1,200 bps **Comparable to:** Bell 100 Series; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX; HDX **Features:** Originate/answer **Units sold:** 200 since 1981 **Cost:** $995

ELECTRONIC VAULTS, INC. (EVI)

☐ FASTCOMM 2400/I
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Originate/answer; Auto. adaptive equalizer; OEM board config.; CCITT V.22 bis compatible **Introduced:** 1986 **Cost:** $599

☐ FASTCOMM 2400/S
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; OEM board config.; CCITT V.22 bis compatible **Introduced:** 1986 **Cost:** $619

☐ FASTCOMM 2496/I
9,600; 7,200; 4,800; 2,400, 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Multiple data rates; Auto answer; Auto dial; Originate/answer; Auto. adaptive equalizer; Status indicators; OEM board config.; Automatic error detection/correction; CCITT V.29, V.22 bis compatible **Introduced:** 1986 **Cost:** $979

☐ FASTCOMM 2496/S
9,600; 7,200; 4,800; 2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Multiple data rates; Auto answer; Auto dial; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; Automatic error detection/correction; CCITT V.22 bis compatible **Introduced:** 1986 **Cost:** $999; $979 (rackmount card)

☐ FASTCOMM 96/I
9,600; 7,200; 4,800 bps **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Originate/answer; Auto. adaptive equalizer; Status indicators; OEM board config.; Automatic error detection/correction; CCITT V.29 compatible **Introduced:** 1986 **Cost:** $899

☐ FASTCOMM 96/S
9,600; 7,200; 4,800 bps **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; Automatic error detection/correction **Introduced:** 1986 **Cost:** $919; $899 (rackmount card)

☐ UPTA 96/I
9,600; 7,200; 4,800 bps **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Multiple data rates; Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators; Auto dial; Automatic error detection/correction; CCITT V.29 compatible **Units sold:** 2,000 since 1985 **Cost:** $895

☐ UPTA 96/S
9,600; 7,200; 4,800 bps **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Multiple data rates; Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators; Auto dial; Standalone; Automatic error detection/correction **Units sold:** 2,000 since 1985 **Cost:** $995

EMERALD TECHNOLOGY GROUP, INC.
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☐ Model 201C
2,400 bps **Comparable to:** Bell 201C **Transmission:** Synchronous **Features:** Auto answer; Status indicators; Standalone **Introduced:** 1985 **Cost:** $685

ERICSSON PROGRAMATIC, INC.

☐ EPI 103J
0-300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Originate/answer; Status indicators; Standalone **Units sold:** 100 since 1983 **Cost:** $442

☐ EPI 103J/LP
0-300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Originate/answer; Status indicators; Standalone **Units sold:** 100 since 1983 **Cost:** $202

☐ EPI 201C
2,400 bps **Comparable to:** Bell 201C **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Status indicators; Standalone **Units sold:** 150 since 1983 **Cost:** $806

☐ EPI 208A/B
4,800 bps **Comparable to:** Bell 208A **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators; Standalone **Units sold:** 100 since 1983 **Cost:** $1,820

☐ EPI 212A
0-300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Status indicators; Standalone **Units sold:** 200 since 1983 **Cost:** $618

☐ EPI 212A/D
0-300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Originate/answer; Status indicators; Standalone **Units sold:** 250 since 1983 **Cost:** $670

☐ EPI 212LP
0-300; 1,200 bps **Comparable to:** Bell 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Status indicators; Standalone **Units sold:** 100 since 1983 **Cost:** $462

☐ ZAT 2400
2,400; 1,200 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Alternate voice/data; Auto answer; Status indicators; Rackmount; Standalone **Units sold:** 10,000 since 1980 **Cost:** $1,195

☐ ZAT 4800
4,800; 2,400 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Alternate voice/data; Auto answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; Optional 2-ch. mux **Units sold:** 20,000 since 1980 **Cost:** $1,995

☐ ZAT 600/1200
1,200; 600 bps **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Units sold:** 4,000 since 1981 **Cost:** $826

EVEREX SYSTEMS, INC.

☐ Evercom
300; 1,200 bps; Hayes compatible **Mode:** HDX; FDX **Features:** OEM board config. **Support equip** Software **Cost:** $249

FOUNTAIN TECHNOLOGIES, INC.

☐ Internal Modem 1200
300; 1,200 bps **Comparable to:** Bell 103; 212A **Mode:** HDX; FDX **Cost:** $165

☐ Super-EX Modem 1200
0-300; 1,200 bps **Comparable to:** Bell 103; 212A **Mode:** HDX; FDX **Cost:** $170

F-TEC (FEDERATED TECHNOLOGY AND ELECTRONICS CORP.)

☐ Model 4848
4,800; 2,400; 1,200 bps **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX; 4-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Status indicators; Auto dial; Originate/answer; Rackmount; Standalone; Auto. adaptive equalizer; Auto disconnect; Point-to-point; V.26 ter, V.32 compatible **Units sold:** 4,000 since 1985 **Cost:** $2,695

FUJITSU AMERICA, INC.
Storage & Peripheral Products Division

☐ Model 1935D
1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Multiple data rates; Auto. adaptive equalizer; CCITT V.22, V.22 bis compatible **Introduced:** 1984 **Cost:** $595-$695

☐ M1915 CM15
4,800; 2,400 bps **Transmission:** Synchronous **Mode:** 4-wire FDX; HDX **Features:** Multiple data rates; Auto. adaptive equalizer; OEM board config. **Introduced:** 1984 **Cost:** $395

☐ M1925 CM02
14.4K; 9,600; 7,200; 4,800; 2,400 bps **Transmission:** Synchronous **Mode:** HDX **Introduced:** 1983 **Cost:** $750

☐ M1935 CM01
2,400; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Auto. adaptive equalizer; OEM board config.; CCITT V.22, V.22 bis compatible **Introduced:** 1984 **Cost:** $500

GALACTICOMM, INC.

☐ BREAKTHROUGH
300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Cost:** $7,450

GAMMALINK

☐ GammaComm
4,800; 7,200; 9,600 bps **Transmission:** Synchronous **Mode:** HDX **Features:** Multiple data rates; Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Standalone **Units sold:** 500 since 1984 **Cost:** $1,995

☐ GammaModem
9,600; 7,200; 4,800 bps **Transmission:** Synchronous **Mode:** HDX **Features:** Multiple data rates; Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Standalone **Units sold:** 500 since 1985 **Cost:** $1,995

GANDALF DATA, INC.
(subsidiary of Gandalf Technologies, Inc.)

☐ **ACCESS Series 12S**
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone; Auto log-on; 10 telephone number storage; Tone and pulse dialing **Support equip** Cables **Introduced:** 1985 **Cost:** $495

☐ **ACCESS Series 208**
4,800 bps **Comparable to:** Bell 208A/B **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Auto answer; Auto. adaptive equalizer; Status indicators; Standalone; Point-to-point; Multipoint **Introduced:** 1985 **Cost:** $1,295 (standalone); $1,150 (rackmount)

☐ **ACCESS Series 24S**
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; V.22 bis compatible; Auto log-on **Support equip** Cables **Introduced:** 1985 **Cost:** $595

☐ **FasTrak 14.4**
14.4K; 12K; 9,600 bps **Transmission:** Synchronous **Mode:** 4-wire FDX **Features:** Auto. adaptive equalizer; Status indicators; Standalone; Point-to-point; CCITT V.29 compatible **Introduced:** 1985 **Cost:** $3,950

☐ **FasTrak 96**
9,600; 7,200; 4,800 bps **Transmission:** Synchronous **Mode:** 4-wire FDX **Features:** Auto. adaptive equalizer; Status indicators; Standalone; Point-to-point; CCITT V.29 compatible **Introduced:** 1985 **Cost:** $1,650

☐ **FasTrak 96FP**
9,600; 4,800; 7,200 bps **Transmission:** Synchronous **Mode:** 4-wire FDX **Features:** Auto. adaptive equalizer; Standalone; Point-to-point; Multipoint; CCITT V.29 compatible **Introduced:** 1985 **Cost:** $1,995

☐ **LDM 419**
9,600 bps **Transmission:** Asynchronous **Mode:** 4-wire FDX **Features:** Auto. adaptive equalizer; Status indicators **Introduced:** 1984 **Cost:** $1,095

☐ **SAM 201**
2,400 bps **Comparable to:** Bell 201C **Transmission:** Asynchronous; Synchronous **Mode:** HDX **Features:** Auto answer; Alternate voice/data; Auto dial; Rackmount; Standalone; 1,200 bps fallback **Introduced:** 1983 **Cost:** $725

GATEWAY MICROSYSTEMS, INC.

☐ **SyncLink 201C**
2,400 bps **Comparable to:** Bell 201C **Transmission:** Synchronous **Features:** Auto answer; Auto dial; OEM board config. **Support equip** Software **Introduced:** 1985 **Cost:** $995

GCH SYSTEMS, INC.

☐ **Desk Talk 1200D**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone; Tone and pulse dialing **Support equip** Software

☐ **Easy Modem 12B**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; OEM board config.; Tone and pulse dialing **Support equip** Software

☐ **Long Talk 1200L**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; OEM board config.; Tone and pulse dialing **Support equip** Software

☐ **Short Talk 1200H**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; OEM board config.; Tone and pulse dialing **Support equip** Software

GENERAL DATACOMM, INC.

☐ **Acculine 1200 PC Modem**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Standalone **Units sold:** 25,000 since 1985 **Cost:** $395

☐ **Acculine 2400 PC Modem**
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Standalone; CCITT V.22 compatible; Tone and pulse dialing **Introduced:** 1986 **Cost:** $595

☐ **Acculine 300 PC Modem**
Up to 300 bps; Hayes compatible **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Standalone **Units sold:** 5,000 since 1985 **Cost:** $289

☐ **DataComm 103J**
Up to 300 bps **Comparable to:** Bell 103J **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Originate/answer; Rackmount; Standalone; 801 ACU compatible **Units sold:** 15,000 since 1981 **Cost:** $545 (standalone); $455 (rackmount)

☐ **DataComm 113D**
Up to 300 bps **Comparable to:** Bell 113D **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Answer only; Rackmount; Standalone **Units sold:** 8,000 since 1981 **Cost:** $520 (standalone); $430 (rackmount)

☐ **DataComm 208B+**
4,800; 2,400 bps **Comparable to:** Bell 208B **Transmission:** Asynchronous; Synchronous **Mode:** HDX **Features:** Originate/answer; Auto dial; Async converter **Units sold:** 6,000 since 1983 **Cost:** $1,295

☐ **DataComm 208B+/SD**
4,800 bps **Comparable to:** Bell 208B **Transmission:** Synchronous **Mode:** HDX **Features:** Auto dial; Auto. adaptive equalizer; Rackmount; Standalone; Point-to-point; Tone and pulse dialing **Cost:** $1,695

☐ **DataComm 208B/A**
4,800 bps **Comparable to:** Bell 208A/B **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Alternate voice/data; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; 25 msec turnaround **Units sold:** 22,000 since 1981 **Cost:** $1,495

☐ **Model 103J-M**
Up to 300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer **Units sold:** 10,000 since 1981 **Cost:** $250

☐ **Model 212A/ED+**
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Originate/answer; Auto dial; Auto. adaptive equalizer; Auto log-on **Units sold:** 20,000 since 1983 **Cost:** $499

☐ **Model 212A/SL**
Up to 300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Originate/answer; Auto. adaptive equalizer **Units sold:** 12,000 since 1983 **Cost:** $395

GENOA SYSTEMS CORP.
SEE AD ON PAGE 189

☐ **Novacom 2400B**
0-300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Auto dial; CCITT V.22 bis compatible; Tone and pulse dialing

GREATWEST TECHNOLOGY, LTD.
SYSDYNE Products Division

☐ **MOD 312F**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Originate/answer; Status indicators; OEM board config.; Tone and pulse dialing **Support equip** Software

HARBOR ELECTRONICS, INC.

☐ **HME Series**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Originate/answer **Introduced:** 1985 **Cost:** $249

☐ **ME-232**
300 bps; Hayes compatible **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Introduced:** 1985 **Cost:** $149

HARRIS CORP.
Computer Systems Division

☐ **Harris 8231**
2,400; 1,200 bps **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Cost:** $950

HAYES MICROCOMPUTER PRODUCTS, INC.
SEE AD ON PAGE 143

☐ **Smartmodem 1200**
0-300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX; HDX **Features:** Multiple data rates; Originate/answer; Status indicators; Auto answer; Auto dial; Standalone; Audio monitor; CCITT V.22 compatible; RJ-11, RJ-13 plug-in **Introduced:** 1982 **Cost:** $599

☐ **Smartmodem 1200B**
Reviewed Sep 1985 p. 60.
Up to 300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX; HDX **Features:** Multiple data rates; Auto answer; Originate/answer; Auto dial; Audio monitor; RJ-11, RJ-12, RJ-13 plug-in; CCITT V.22 compatible **Introduced:** 1983 **Cost:** $549 (includes Smartcom II software)

☐ **Smartmodem 2400**
0-300; 1,200; 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto. adaptive equalizer; Auto answer; Auto dial; Status indicators; Tone and pulse dialing; Auto redial; CCITT V.22, V.22 bis compatible **Introduced:** 1985 **Cost:** $899

☐ **Smartmodem 2400B**
2,400; 1,200; 300 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Alternate voice/data; Auto. adaptive equalizer; CCITT V.22, V.22 bis compatible; Tone and pulse dialing

☐ **Smartmodem 300**
Up to 300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX; HDX **Features:** Multiple data rates; Auto answer; Originate/answer; Auto dial; Standalone; Status indicators; Audio monitor **Introduced:** 1981 **Cost:** $199

HEWLETT-PACKARD CO.

☐ **HP 82950A Series 80**
Up to 300 bps **Comparable to:** Bell 103 **Mode:** 2-wire FDX **Introduced:** 1982 **Cost:** $395

☐ **Model 37210T**
4,800 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Multiple data rates; Secondary channel; Auto answer; Auto. adaptive equalizer; Selectable 2,400 bps **Cost:** $4,350

HITACHI DENSHI AMERICA, LTD.

☐ **HD-4800**
4,800; 2,400 bps **Mode:** HDX; 4-wire FDX

☐ **HD-4800FP**
4,800; 2,400 bps **Mode:** HDX; 4-wire FDX

☐ **HD-9600**
9,600; 7,200; 4,800 bps **Mode:** HDX; 4-wire FDX

☐ **HD-9600FP**
9,600; 7,200; 4,800 bps **Mode:** HDX; 4-wire FDX

☐ **HD-9673A**
9,600; 7,200; 4,800; 2,400 bps **Mode:** HDX; 4-wire FDX

☐ **HD-9674A**
9,600; 7,200; 4,800 bps **Mode:** HDX; 4-wire FDX

☐ HD-9675A
9,600; 7,200; 4,800 bps **Mode:** HDX; 4-wire FDX

☐ HD-9680A (XL-1)
9,600; 7,200; 4,800; 2,400; 300 bps **Mode:** HDX

☐ HM-9671A
9,600; 7,200; 4,800; 2,400; 300 bps **Mode:** HDX; 4-wire FDX

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ IBM PC 1200 Modem
1,200 bps **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto. adaptive equalizer; OEM board config.; Auto speed detection; Auto redial **Introduced:** 1985 **Cost:** $499

☐ Model 3833
2,400 bps **Transmission:** Synchronous **Features:** Standalone **Introduced:** 1985 **Cost:** $1,450

☐ Model 3834
4,800 bps **Transmission:** Synchronous **Features:** Standalone **Introduced:** 1985 **Cost:** $2,600

☐ Model 3863-2
1,200; 2,400 bps **Transmission:** Synchronous **Mode:** HDX **Features:** Multiple data rates; Auto answer; Auto. adaptive equalizer; Reverse channel **Support equip** Software **Introduced:** 1979 **Cost:** $2,075; Lease (mo.) —$112

☐ Model 3864-2
2,400; 4,800 bps **Transmission:** Synchronous **Mode:** HDX **Features:** Multiple data rates; Auto answer; Auto. adaptive equalizer; Reverse channel **Support equip** Software **Introduced:** 1979 **Cost:** $3,400; Lease (mo.) —$192

☐ Model 5841
1,200; 600 bps **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto dial; Auto. adaptive equalizer; Standalone; Auto speed detection; Auto redial **Introduced:** 1985 **Cost:** $609

☐ Model 5865-2
9,600 bps **Transmission:** Synchronous **Mode:** HDX; FDX **Introduced:** 1986 **Cost:** $4,000

☐ Model 5865-3
9,600 bps **Transmission:** Synchronous **Introduced:** 1986 **Cost:** $4,650

☐ Model 5866-2
14.4K; 9,600 bps **Transmission:** Synchronous **Mode:** HDX; FDX **Introduced:** 1986 **Cost:** $6,000

☐ Model 5866-3
14.4K; 9,600 bps **Transmission:** Synchronous **Introduced:** 1986 **Cost:** $6,650

☐ Model 5868-52
9,600 bps **Transmission:** Synchronous **Mode:** HDX; FDX **Introduced:** 1986 **Cost:** $3,300

☐ Model 5868-62
9,600; 14.4K bps **Transmission:** Synchronous **Mode:** HDX; FDX **Introduced:** 1986 **Cost:** $5,300

IDEASSOCIATES, INC.

☐ IDEAComm 1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; 4-wire FDX **Features:** Auto answer; Auto dial **Introduced:** 1983 **Cost:** $495

☐ IDEAComm 2400
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; 4-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Error checking **Introduced:** 1986 **Cost:** $695

INCOMM DATA SYSTEMS, INC.

☐ EC212A
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Auto dial **Units sold:** 7,800 since 1984 **Cost:** $299

☐ ERCORECT PC
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Auto dial **Support equip** Software **Units sold:** 1,200 since 1984 **Cost:** $599

☐ ERCORECT 1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate only **Units sold:** 6,700 since 1984 **Cost:** $599

☐ OEM Board Modem
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Originate/answer; Auto dial; Standalone; OEM board config. **Units sold:** 44,000 since 1983

☐ PC 1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate only **Support equip** Software **Units sold:** 2,300 since 1984 **Cost:** $399

☐ PL 4800 MD
2,400; 4,800 bps **Transmission:** Synchronous **Mode:** 4-wire FDX **Features:** Auto answer; Originate/answer; Standalone **Units sold:** 2,200 since 1984 **Cost:** $1,299

☐ PL 9600 MD
4,800; 7,200; 9,600 bps **Transmission:** Synchronous **Mode:** 4-wire FDX **Features:** Auto answer; Originate/answer; Standalone **Units sold:** 1,800 since 1984 **Cost:** $1,599

☐ Rainbow
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Standalone **Cost:** $249

☐ STARCOM 300
300 bps; Hayes compatible **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Auto dial **Units sold:** 1,200 since 1984 **Cost:** $239

☐ Turbo 2400 Series
2,400; 1,200; 600; 300 bps; Hayes compatible **Comparable to:** Bell 212; 103 **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Auto. adaptive equalizer; Status indicators; Auto dial; Standalone; OEM board config.; ARQ error correction; CCITT V.22 bis compatible **Units sold:** 56 since 1985 **Cost:** $599

☐ 212X.25
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone; OEM board config.; Integral PAD; Tone and pulse dialing **Cost:** $599

☐ 2400 FDX Auto Dial
1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto dial; Auto answer; Standalone **Units sold:** 16,000 since 1984 **Cost:** $599

INFINET, INC.

☐ Model 224
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; CCITT V.22, V.22 bis compatible; 10 telephone number storage; Tone and pulse dialing **Introduced:** 1986 **Cost:** $795 (standalone); $745 (rackmount)

☐ V.32 Trellis
9,600; 4,800 bps **Transmission:** Synchronous **Mode:** 2-wire FDX; 4-wire FDX **Features:** Auto answer; Auto. adaptive equalizer; Status indicators; Standalone **Introduced:** 1986 **Cost:** $3,495

INFOTRON SYSTEMS CORP.

☐ DSM 201C
2,400 bps **Comparable to:** Bell 201C **Mode:** HDX; 4-wire FDX **Features:** Rackmount

INMAC

☐ Model 1970
4,800 bps **Comparable to:** Bell 208A/B **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Cost:** $1,295

☐ Model 1971
9,600; 7,200; 4,800 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Cost:** $1,995

☐ Model 8127
0-300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** 4-wire FDX **Features:** Alternate voice/data; Originate/answer **Support equip** Cables **Units sold:** 1,200 since 1984 **Cost:** $99

☐ 1972 Fast Talk
2,400; 1,200 bps **Comparable to:** Bell 212; 224 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer; Status indicators **Support equip** Cables **Introduced:** 1985 **Cost:** $495

☐ 8006-A Clear Signal MNP
2,400 bps **Transmission:** Asynchronous; Synchronous **Cost:** $795

☐ 8062 Clear Signal
0-300 bps; Hayes compatible **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators **Support equip** Cables **Introduced:** 1985 **Cost:** $229

☐ 8062R3 Clear Signal
0-300 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone **Cost:** $229

☐ 8071 212 Auto Dial
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A; 113 **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators **Support equip** Cables **Units sold:** 3,000 since 1982 **Cost:** $349

☐ 8077 Password
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A; 113 **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial **Support equip** Cables **Units sold:** 7,000 since 1983 **Cost:** $229

INTEGRATED DESIGN ENGINEERING, INC.

☐ Modem-Plus
Up to 300; 1,200 bps **Comparable to:** Bell 202 **Transmission:** Asynchronous **Mode:** HDX **Units sold:** 10 since 1982 **Cost:** $595

INTERFACE TECHNOLOGIES, INC.

☐ Datagraph
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; OEM board config.; Tone and pulse dialing **Support equip** Software

INTERNATIONAL DATA SCIENCES, INC. (IDS)

☐ Model 224
2,400; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer; Auto. adaptive equalizer **Units sold:** 245 since 1984 **Cost:** $675

☐ 533 OZ Guardian
110; 300; 1,200; 4,800; 9,600 bps **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer; Auto log-on **Units sold:** 388 since 1984 **Cost:** $750

ITT CORP.
Data Equipment and Systems Division

☐ 1200 PC Modem
110; 300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Cost:** $365

☐ 1200 SPC Modem
110; 300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Cost:** $429

KENSINGTON MICROWARE, LTD.

☐ Maccessories Portable Modem
300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Introduced:** 1984 **Cost:** $140

KWANASIA TELE-COMPUTERS, INC.

☐ TM 1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Tone and pulse dialing; Last number redial; 24-digit telephone number storage **Introduced:** 1985 **Cost:** $399

KYOCERA INTERNATIONAL, INC.

☐ KM1200D
110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; OEM board config.; Tone and pulse dialing **Introduced:** 1985 **Cost:** $345; $495 (includes software)

☐ KM1200S
110; 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone; Tone and pulse dialing **Introduced:** 1985 **Cost:** $495; $665 (includes software)

LEADING EDGE HARDWARE PRODUCTS, INC.

☐ L Series 1200B
300; 1,200 bps **Comparable to:** Bell 103A; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX

☐ L Series 2400
2,400 bps **Comparable to:** Bell 103A; 212A **Cost:** $289

LINK COMPUTER, INC.

☐ SM-12
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone; Tone and pulse dialing **Units sold:** 75,000 since 1984 **Cost:** $299

☐ SM-12PC
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; OEM board config.; Tone and pulse dialing **Units sold:** 18,000 since 1984 **Cost:** $279

☐ SM-120
1,200 bps; Hayes compatible **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone; CCITT V.22 compatible; Tone and pulse dialing

☐ SM-120PC
1,200 bps; Hayes compatible **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; OEM board config.; CCITT V.22 compatible; Tone and pulse dialing

☐ SM-24
0-300; 600; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Standalone; CCITT V.22 compatible; Tone and pulse dialing **Units sold:** 3,000 since 1986 **Cost:** $599

☐ SM-24PC
0-300; 600; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; OEM board config.; CCITT V.22 compatible; Tone and pulse dialing **Units sold:** 1,000 since 1986 **Cost:** $579

☐ SM-3
0-300 bps; Hayes compatible **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone; Tone and pulse dialing

☐ SM-30
0-300 bps; Hayes compatible **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone; CCITT V.21 compatible; Tone and pulse dialing

LUCKY-GOLDSTAR INTERNATIONAL CORP.

☐ GSM-212A AD1
0-300; 1,200 bps **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto. adaptive equalizer; Tone and pulse dialing

☐ LX-TAL 212A
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Tone and pulse dialing

M/A-COM INFORMATION SYSTEMS, INC.
(division of M/A-COM, Inc.)

☐ Model 1235
300-1,200 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Originate only

☐ Model 1259
1,200 bps **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous **Mode:** FDX **Features:** Originate/answer

☐ Model 208B/A
4,800 bps **Comparable to:** Bell 208 **Transmission:** Synchronous **Mode:** HDX; FDX

☐ Model 2127
4,800 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Dial backup

☐ Model 2129
9,600 bps **Transmission:** Synchronous **Mode:** 4-wire FDX **Features:** Auto. adaptive equalizer

☐ Model 300/1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Originate/answer; Racal-Vadic compatible **Introduced:** 1978

☐ 300/1200 Auto Dial
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 4-wire FDX **Features:** Multiple data rates; Auto answer; Originate only; Originate/answer; Auto dial; Telephone number storage

MCDONNELL DOUGLAS INFORMATION SYSTEMS GROUP
(component of McDonnell Douglas Corp.)

☐ Model 912
Up to 300; 1,200 bps **Comparable to:** Bell 100 Series; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer **Introduced:** 1980 **Cost:** $695; Lease (mo.) —$40

MICOM SYSTEMS, INC.

☐ Micro4000 Model 40168
4,800; 9,600; 12K; 14.4K; 16.8K bps **Transmission:** Synchronous **Mode:** 4-wire FDX **Features:** Auto. adaptive equalizer; Status indicators; Standalone; Point-to-point **Units sold:** 100 since 1984 **Cost:** $5,495

MICROCOM, INC.

☐ AX/1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; Error correction; CCITT V.22 bis compatible; Tone and pulse dialing **Introduced:** 1986 **Cost:** $499 (standalone); $479 (rackmount)

☐ AX/2400
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; Error correction; CCITT V.22 bis compatible; Tone and pulse dialing **Introduced:** 1985 **Cost:** $749 (standalone); $729 (rackmount)

☐ AX/2400c
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; Error correction; Data compression; CCITT V.22 bis compatible; Tone and pulse dialing **Introduced:** 1986 **Cost:** $899 (standalone); $879 (rackmount)

☐ AX/9612c
300; 1,200; 9,600 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; Error correction; Tone and pulse dialing; CCITT V.22 compatible **Introduced:** 1986 **Cost:** $1,599 (standalone); $1,579 (rackmount)

☐ AX/9624c
300; 1,200; 2,400; 9,600 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; Error correction; Tone and pulse dialing; CCITT V.22 bis compatible **Cost:** $1,799 (standalone); $1,779 (rackmount)

☐ HD/2400 Dual Modem Card
2,900 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** OEM board config.; CCITT V.22 bis compatible **Introduced:** 1986 **Cost:** $1,349

☐ HD/2400c Dual Modem Card
4,800 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** OEM board config.; CCITT V.22 bis compatible **Introduced:** 1986 **Cost:** $1,599

☐ SX/1200; SX/2400
300; 1,200; 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Rackmount; Standalone; 9 telephone number storage; Error detection/correction; V.22 bis compatible **Introduced:** 1984 **Cost:** $699 (standalone); $679 (rackmount); $999 (standalone-2,400 bps); $979 (rackmount-2,400 bps)

☐ ZX/1200; ZX/2400
2,400; 1,200; 300; 110 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Rackmount; Standalone; Auto redial **Introduced:** 1984 **Cost:** $979-$999 (ZX/2400); $679-$699 (ZX/1200)

MICROPLEX, INC.

☐ SL 103
Up to 300 bps; Hayes compatible **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Originate/answer **Units sold:** 500 since 1982 **Cost:** $90

☐ SL 212A
Up to 300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial **Units sold:** 200 since 1983 **Cost:** $210

MISCO, INC., COMPUTER SUPPLIES

☐ Model 1006
300; 1,200 bps **Comparable to:** Bell 103; 212A **Cost:** $449

MORRISON & DEMPSEY COMMUNICATIONS

☐ SmarTEAM 103/212A
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Tone and pulse dialing **Support equip** Software **Units sold:** 30,000 since 1984 **Cost:** $299

☐ SmarTEAM 1200AT
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Standalone; Tone and pulse dialing; Call progress detection **Introduced:** 1985 **Cost:** $299

☐ SmarTEAM 1200B
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Tone and pulse dialing **Support equip** Software **Units sold:** 5,000 since 1985 **Cost:** $299 (includes software)

☐ SmarTEAM 2400
0-300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A; 224 **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Status indicators; Standalone; Tone and pulse dialing; CCITT V.22, V.22 bis compatible; Call progress detection **Support equip** Software **Units sold:** 5,000 since 1985 **Cost:** $599

☐ SmarTEAM 2400B
0-300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A; 224 **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto. adaptive equalizer; Status indicators; CCITT V.22, V.22 bis compatible; Tone and pulse dialing; Call progress detection **Support equip** Software **Units sold:** 5,000 since 1986 **Cost:** $599

MULTI-TECH SYSTEMS, INC.

☐ MT113D-R
Up to 300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Answer only; Rackmount **Introduced:** 1976 **Cost:** $225 (rackmount)

☐ MT212AD
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Originate/answer; Status indicators; Rackmount; Auto dial with memory **Introduced:** 1983 **Cost:** $595

☐ MT224AR
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103J; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial **Introduced:** 1985 **Cost:** $625 (rackmount)

☐ MT224ER
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103J; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial **Introduced:** 1985 **Cost:** $675 (rackmount)

☐ MultiModem
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX; HDX **Features:** Auto answer; Auto dial; Battery-backed telephone number memory; Dial tone/Busy signal detect **Introduced:** 1983 **Cost:** $399

☐ MultiModemPC3
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial **Support equip** Cables; Software **Introduced:** 1986 **Cost:** $299

☐ MultiModem224
Up to 300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Auto dial; Rackmount; Battery-backed telephone number memory; Dial tone/Busy signal detect; CCITT V.22 bis compatible **Introduced:** 1985 **Cost:** $699

☐ MultiModem224E
Up to 300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Auto dial; Rackmount; Battery-backed telephone number memory; Dial tone/Busy signal detect; CCITT V.22 bis compatible **Introduced:** 1985 **Cost:** $749

☐ MultiModem224EC
Up to 300; 1,200; 2,400 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Introduced:** 1985 **Cost:** $699

☐ MultiModem224PC
Up to 300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Auto dial; Card-only modem for IBM PC; Includes full communications software **Introduced:** 1985 **Cost:** $649

NATURAL MICROSYSTEMS CORP.

☐ Watson
Reviewed Aug 1985 p. 29.
300; 1,200 bps; Hayes compatible **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto dial; Auto. adaptive equalizer; Alternate voice/data; Voice messaging **Support equip** Software **Units sold:** 6,000 since 1984 **Cost:** $498

NEC AMERICA, INC.
(subsidiary of NEC Corp.)

☐ Model N212BR
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto dial; 12-number, 64-char. memory per number; Auto log-on **Support equip** Cables **Introduced:** 1982 **Cost:** $595 (standalone); $545 (card only)

☐ N1220/30
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto. adaptive equalizer; Auto dial; Auto answer; Originate/answer; Status indicators; Rackmount; Standalone **Support equip** Cables **Introduced:** 1986 **Cost:** $395 (standlone); $375 (card only)

☐ N1220/30HN
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212; 103 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Auto dial; Rackmount; Standalone; Auto. adaptive equalizer; Auto log-on **Introduced:** 1986 **Cost:** $445 (standalone); $425 (card only)

☐ N1230
1,200 bps; Hayes compatible **Comparable to:** Bell 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Standalone; Auto dial; Originate/answer; Status indicators **Introduced:** 1985 **Cost:** $345

☐ N2420/30
300; 1,200; 2,400 bps **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone **Introduced:** 1985 **Cost:** $695 (standalone); $575 (card only)

☐ N2420/30HN
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Rackmount; Standalone; Auto. adaptive equalizer; Status indicators; CCITT V.22 bis compatible; Auto log-on **Introduced:** 1985 **Cost:** $795 (standalone); $675 (card only)

☐ N2420/30HNE
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Rackmount; Standalone; Auto. adaptive equalizer; Status indicators; CCITT V.22 bis compatible; MNP error control **Introduced:** 1986

☐ N2420/30Y
300; 1,200; 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Rackmount; Standalone; Auto. adaptive equalizer; Status indicators; CCITT V.22 bis compatible; Sync auto dial; CCITT V.25 bis compatible **Introduced:** 1985 **Cost:** $895 (standalone); $775 (card only)

NETWORK SOFTWARE ASSOCIATES, INC.

☐ AdaptModem ACC
2,400 bps **Comparable to:** Bell 201 **Transmission:** Synchronous **Features:** Auto answer; Auto dial; OEM board config.; Auto re-dial; Speed dial; Includes SDLC interface adapter **Support equip** Software **Introduced:** 1986 **Cost:** $795

☐ AdaptModem 4800
4,800 bps **Comparable to:** Bell 208 **Transmission:** Synchronous **Introduced:** 1986 **Cost:** $1,195 (includes software)

NICHIMEN AMERICA, INC.

☐ FDM-1200
1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX

NOVATION, INC.

☐ CAT Communication System
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Auto log-on; Standalone or internal smart modem **Support equip** Software **Introduced:** 1984 **Cost:** $499 (standalone with software); $449 (modem card with software)

☐ J-CAT
Up to 300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer; Status indicators **Support equip** Cables **Introduced:** 1982 **Cost:** $149

☐ Professional 2400 Communication System
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Keypad control; Liquid crystal display; CCITT V.22 bis compatible **Support equip** Software **Introduced:** 1985 **Cost:** $795; $895 (includes MITE software)

☐ 103 Smart-CAT
110; 300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Auto dial; Software command set **Support equip** Cables; Software **Introduced:** 1982 **Cost:** $249

☐ 103/212 Smart-CAT
300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Auto dial; Software command set **Support equip** Cables; Software **Introduced:** 1982 **Cost:** $495

☐ 212 Auto-CAT
Up to 300; 1,200 bps **Comparable to:** Bell 100 Series; 212A Series **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer; Status indicators; Auto disconnect **Support equip** Cables; Software **Introduced:** 1982 **Cost:** $695

☐ 2400 Half Card
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 103A; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto dial; Auto. adaptive equalizer; OEM board config.; Tone and pulse dialing; CCITT V.22 bis compatible **Support equip** Software **Introduced:** 1985 **Cost:** $595; $695 (includes software)

OMNITEL, INC.

☐ Encore 1200B
Reviewed Sep 1985 p. 60.
Up to 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Tone and pulse dialing **Support equip** Software **Units sold:** 14,000 since 1984 **Cost:** $299

☐ Model 1200
Up to 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Status indicators; Standalone; Tone and pulse dialing **Units sold:** 10,000 since 1984 **Cost:** $349

☐ Model 1200HB
Up to 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Tone and pulse dialing **Support equip** Software **Units sold:** 150,000 since 1985 **Cost:** $349

☐ Model 1200LC
Up to 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Status indicators; Standalone; Tone and pulse dialing **Units sold:** 2,800 since 1985 **Cost:** $299

☐ Model 2400HB
Up to 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Tone and pulse dialing **Support equip** Software **Units sold:** 4,200 since 1985 **Cost:** $449

☐ Model 300B
Up to 300 bps; Hayes compatible **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Originate only; Tone and pulse dialing **Units sold:** 1,050 since 1984 **Cost:** $149

☐ Model 300jr.
Up to 300 bps; Hayes compatible **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Originate/answer; Tone and pulse dialing **Support equip** Software **Units sold:** 1,010 since 1984 **Cost:** $149

☐ OmniPak
Up to 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Tone and pulse dialing; Clock/calendar **Support equip** Software **Units sold:** 3,500 since 1985 **Cost:** $499

PANASONIC INDUSTRIAL CO.

☐ KX-D401
300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer; Status indicators **Introduced:** 1984 **Cost:** $99

☐ KX-D402
300; 1,200 bps **Comparable to:** Bell 103; 113 **Features:** Auto answer; Originate/answer; Status indicators **Introduced:** 1985 **Cost:** $299

☐ KX-D4130
300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer; Auto redial **Introduced:** 1985 **Cost:** $199

THE PANDE GROUP, INC.

☐ Performance Series 2400 Modem
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Auto. adaptive equalizer; Standalone; V.22 bis compatible; Liquid crystal display **Units sold:** 1,000 since 1985 **Cost:** $445

PARADYNE CORP.

☐ FDX 1200
0-300; 600; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; Tone and pulse dialing; Error correction; CCITT V.22 compatible **Units sold:** 4,000 since 1985 **Cost:** $395

☐ FDX 2400
0-300; 600; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto dial; Auto answer; Originate/answer; Auto. adaptive equalizer; Status indicators; Point-to-point; V.22 bis compatible; Tone and pulse dialing; Error correction **Units sold:** 12,000 since 1985 **Cost:** $595

☐ FDX/PC
300; 600; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; OEM board config.; Tone and pulse dialing **Introduced:** 1986 **Cost:** $595

PEACHTREE TECHNOLOGY, INC.

☐ P-1200
1,200 bps; Hayes compatible **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Standalone; Tone and pulse dialing

PENRIL DATACOMM
(division of Penril Corp.)

☐ Auto Data 300/1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103 Series **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer **Units sold:** 40,000 since 1980 **Cost:** $535; $60 (additional charge for security access system option)

☐ CADET 1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Originate/answer **Support equip** Software **Units sold:** 100 since 1985 **Cost:** $289

☐ CADET 2400
2,400; 1,200; 300; 110 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto dial; CCITT V.22 bis compatible; Error correction **Support equip** Software **Units sold:** 100 since 1985 **Cost:** $535

☐ Datalink 2400
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 2-wire FDX **Features:** Auto dial; Auto. adaptive equalizer; Rackmount; Standalone; V.22 bis compatible; 32-char. liquid crystal display **Units sold:** 100 since 1985 **Cost:** $695; Lease (mo.) —$18-$27

☐ Model 300/1200
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 100 Series; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Status indicators; Manual dial; Optional auto dial **Units sold:** 25,000 since 1980 **Cost:** $495; Lease (mo.) — $11-$17

☐ Model 8201 DN
2,400 bps **Comparable to:** Bell 201C **Transmission:** Synchronous **Mode:** HDX; Simplex **Features:** Auto answer; Answer only; Originate only; Auto dial; 1,200 bps fallback **Units sold:** 1,500 since 1982 **Cost:** $795; Lease (mo.) —$29-$43

☐ Model 8208A/B
4,800 bps **Comparable to:** Bell 208A/B **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Auto answer; Auto. adaptive equalizer; Status indicators **Units sold:** 800 since 1982 **Cost:** $1,750; Lease (mo.) —$88-$132

☐ Pacer 2400
2,400; 1,200; 300; 110 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** CCITT V.22 bis compatible **Support equip** Software **Units sold:** 200 since 1985 **Cost:** $629

PRACTICAL PERIPHERALS, INC.

☐ Practical Modem 1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; OEM board config.; Tone and pulse dialing **Support equip** Software **Units sold:** 15,000 since 1986 **Cost:** $199

PRECISION INTERNATIONAL, INC.

☐ Model 8150
300; 1,200 bps **Comparable to:** Bell 103; 212A

PRENTICE CORP.

☐ P-201C Private Line/Dial Modem
2,400 bps **Comparable to:** Bell 201B/C **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Auto answer; Status indicators; Originate only **Introduced:** 1981 **Cost:** $745 (standalone); $645 (rackmount)

☐ P-208A/B
4,800 bps **Comparable to:** Bell 208A/B **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Auto answer; Originate only **Introduced:** 1983 **Cost:** $1,395 (standalone); $1,295 (rackmount)

☐ P-212AD
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto dial; Status indicators; Rackmount; Standalone **Introduced:** 1985 **Cost:** $495 (standalone); $395 (rackmount)

☐ P-212ZX
1,200; 300 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Introduced:** 1986 **Cost:** $325

☐ P-224
110; 300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; CCITT V.22 bis compatible **Introduced:** 1986 **Cost:** $695-$845

☐ POPCOM C100 Series
Reviewed Sep 1985 p. 60.
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto dial **Introduced:** 1984 **Cost:** $445 (C100); $469 (C150)

☐ POPCOM C200 Series
110; 300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** FDX **Features:** OEM board config. **Introduced:** 1986 **Cost:** $595 (C200); $645 (C250)

☐ POPCOM X100 Series
1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto dial; Alternate voice/data **Introduced:** 1984 **Cost:** $475 (X100); $499 (X150); $495 (M125)

☐ TriModem
Up to 300; 1,200 bps **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Answer only; Status indicators; Rackmount; Standalone; Racal-Vadic 3400 compatible **Introduced:** 1982 **Cost:** $950 (standalone); $850 (rackmount)

☐ 212 Terminal-Controlled Modem
Up to 300; 1,200 bps **Comparable to:** Bell 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Auto dial; Modem pooling; Non-volatile memory **Introduced:** 1983 **Cost:** $795 (standalone); $850 (rackmount)

☐ 9600A/B Data Modem
9,600 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Auto. adaptive equalizer; Status indicators; V.29 compatible; 7,200 or 4,800 bps fallback **Introduced:** 1984 **Cost:** $2,150 (standalone); $2,050 (rackmount)

PROCESSING INNOVATIONS, INC.

☐ Speech-Aided Modem
1,200 bps **Comparable to:** Bell 202C **Transmission:** Asynchronous **Mode:** Simplex **Features:** Auto answer; Status indicators; Digital speech synthesis; Voice output interface (hand-held terminal to host); RJ-11C input **Units sold:** 600 since 1978 **Cost:** $995-$6,995

PROMETHEUS PRODUCTS, INC.

☐ ProModem 1200
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer; Auto dial; Standalone; Tone and pulse dialing; Alphanumeric display; Optional transmit/receive buffer **Units sold:** 40,000 since 1983 **Cost:** $495

☐ ProModem 1200B; 1200B/2
Reviewed Sep 1985 p. 60.
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Tone and pulse dialing **Support equip** Software **Units sold:** 12,500 since 1984 **Cost:** $299 (includes software)

☐ ProModem 1200M
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer; Standalone; Optional buffer memory; Tone and pulse dialing; Alphanumeric display **Support equip** Cables; Software **Units sold:** 10,000 since 1985 **Cost:** $549 (includes software)

☐ ProModem 2400
0-300; 1,200; 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Units sold:** 1,500 since 1986 **Cost:** $595

☐ ProModem 2400M
0-300; 1,200; 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Units sold:** 1,500 since 1986 **Cost:** $595

QIC RESEARCH, INC.

☐ QIC-03
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous **Mode:** HDX; 4-wire FDX; 2-wire FDX **Features:** Auto answer; Auto dial; OEM board config.; Auto speed detection **Support equip** Cables; Software **Units sold:** 5,000 since 1984 **Cost:** $199

☐ QIC-1200X
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Originate/answer; Status indicators; Standalone; Tone and pulse dialing **Support equip** Cables; Software **Units sold:** 3,000 since 1984 **Cost:** $299

QUADRAM
(subsidiary of Intelligent Systems Corp.)

☐ Quadmodem II
110; 300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX; 4-wire FDX **Features:** Auto answer; Auto dial; Call progress monitoring **Support equip** Software **Introduced:** 1985 **Cost:** $495 (300/1,200 bps); $795 (300/1,200/2,400 bps)

QUBIE

☐ Model 212A/1200E
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Features:** Auto answer; Auto dial; Status indicators; Standalone; Tone and pulse dialing **Support equip** Cables; Software; manuals **Units sold:** 25,000 since 1983 **Cost:** $199

☐ PC 212A/1200
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Features:** Auto answer; Auto dial; Originate/answer; Tone and pulse dialing **Support equip** Cables; Software; manuals **Units sold:** 25,000 since 1983 **Cost:** $179 (includes PC-Talk III software)

QYTEL
(division of Consolidated Data Systems, Ltd.)

☐ DCX201
2,400 bps **Comparable to:** Bell 201CR **Transmission:** Synchronous **Mode:** HDX **Features:** Auto answer; Answer only; Originate only; Originate/answer; Auto. adaptive equalizer; Status indicators; Satellite capabilities **Units sold:** 3,400 since 1980 **Cost:** $695; Lease (mo.) —$50

☐ DCX208A
4,800 bps **Comparable to:** Bell 208AR **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Multiple data rates; Originate only; Originate/answer; Auto. adaptive equalizer; Status indicators **Units sold:** 2,600 since 1980 **Cost:** $1,395; Lease (mo.) —$60

☐ DCX208B
2,400; 4,800 bps **Comparable to:** Bell 208BR **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Multiple data rates; Auto answer; Answer only; Originate only; Originate/answer; Auto. adaptive equalizer; Status indicators **Units sold:** 2,200 since 1980 **Cost:** $1,495; Lease (mo.) —$65

☐ DCX212
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX; 4-wire FDX **Features:** Multiple data rates; Auto answer; Answer only; Originate only; Originate/answer; Auto. adaptive equalizer; Status indicators; Auto dial; Error correction **Units sold:** 7,750 since 1980 **Cost:** $395-$695; Lease (mo.) —$15-$35

RACAL-VADIC
(subsidiary of Racal Electronics, Ltd.)

☐ Model 2400V
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212; 103 **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Alternate voice/data; Auto dial; Status indicators; Standalone; Auto tone and pulse selection; V.22 bis compatible **Units sold:** 8,000 since 1985 **Cost:** $595 (George software-$79)

☐ VA4492E
2,400; 1,200; 300 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Cost:** $1,-595

☐ 1200PA
1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; 15 telephone number storage **Introduced:** 1985 **Cost:** $495

☐ 1200PC
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto answer; Auto dial **Support equip** Software **Introduced:** 1984 **Cost:** $295 (includes software)

☐ 1200VP
300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Introduced:** 1986 **Cost:** $350

☐ 2400PA
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212; 103 **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Auto log-on; 15 telephone number storage; V.22 bis compatible; Modem management; Speed conversion; MNP error control **Units sold:** 13,000 since 1985 **Cost:** $795

☐ 2400PA-S
1,200; 2,400 bps **Comparable to:** Bell 212 **Transmission:** Synchronous **Mode:** FDX **Features:** Auto dial; V.22 bis compatible **Units sold:** 2,000 since 1985 **Cost:** $795

☐ 2400PC
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous **Mode:** FDX **Features:** Alternate voice/data; Auto dial; Auto tone and pulse selection **Support equip** Software **Units sold:** 1,000 since 1985 **Cost:** $595 (George software-$79)

☐ 4850PA
4,800; 2,400 bps **Comparable to:** Bell 208B **Transmission:** Synchronous **Mode:** **Introduced:** 1986 **Cost:** $1,295

☐ 9600VP
9,600; 1,200; 300 Async; Sync 9,600; 7,200; 4,800; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** HDX; FDX **Features:** Auto speed detection; Speed conversion; MNP error control **Introduced:** 1986 **Cost:** $1,495

☐ 9650 FT/PA
9,600; 7,200; 4,800 bps **Transmission:** Synchronous **Introduced:** 1986 **Cost:** $1,695

ROCKWELL INTERNATIONAL CORP.
Semiconductor Products Division

☐ R48DP/208
4,800 bps **Comparable to:** Bell 208 **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Auto. adaptive equalizer; CCITT V.27 bis/ter compatible **Introduced:** 1986 **Cost:** $290

SIERRA/MISCO, INC.

☐ Model 5071TM-A
300 bps; Hayes compatible **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** 4-wire FDX **Features:** Auto answer; Standalone **Support equip** Cables **Units sold:** 25 since 1983 **Cost:** $350 (includes cable)

☐ Model 5071TM-AAAD
1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Standalone **Support equip** Cables **Units sold:** 9 since 1984 **Cost:** $675

SPECTRUM CELLULAR CORP.

☐ The Bridge
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Originate/answer; Error correction **Introduced:** 1985 **Cost:** $695

SUNNYVALE COMMUNICATIONS CO.

☐ 1200LC
300; 1,200 bps; Hayes compatible **Features:** Auto answer; Auto dial; Standalone; Tone and pulse dialing **Support equip** Cables **Cost:** $199

SUPRA CORP.

☐ Supra 1200 AT
300; 1,200 bps **Cost:** $200

TANDY/RADIO SHACK

☐ DCM 3 (26-1178)
300 bps **Comparable to:** Bell 103 **Mode:** FDX **Introduced:** 1986 **Cost:** $60

☐ DCM 5 (26-1177)
300 bps **Comparable to:** Bell 103 **Mode:** HDX; FDX **Introduced:** 1986 **Cost:** $130

☐ DC2212 Modem (26-1176)
300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Features:** Auto answer; Auto dial **Cost:** $400

☐ 1200 Baud PC Modem Board (25-1013)
1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Features:** Multiple data rates; Originate/answer **Introduced:** 1985 **Cost:** $300

☐ 300 Baud Modem Board (25-1003)
300 bps **Transmission:** Asynchronous **Features:** Auto answer; Auto dial; Originate/answer **Cost:** $150

TECMAR, INC.

☐ Phonegate 2400
300-2,400 bps; Hayes compatible **Features:** Alternate voice/data; Auto answer; Auto dial **Support equip** Software **Introduced:** 1985 **Cost:** $789

☐ T-Modem
2,400; 1,200; 600; 300; 110 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Cost:** $695

TEK-COM CORP.

☐ TC 1200PC
Up to 1,200 bps **Comparable to:** Bell 103A; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Introduced:** 1986 **Cost:** $299; $349 (includes software)

☐ TC 1212
Up to 4,800 bps **Comparable to:** Bell 103A; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Introduced:** 1986 **Cost:** $595

☐ TC 1911EM
Up to 2,400 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Introduced:** 1986 **Cost:** $695 (standalone); $675 (rackmount)

☐ TC 1915EM
Up to 4,800 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Introduced:** 1986 **Cost:** $995 (standalone); $975 (rackmount)

☐ TC 1921EM
Up to 9,600 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Introduced:** 1986 **Cost:** $1,495 (standalone); $1,475 (rackmount)

☐ TC 1924EM
Up to 9,600 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Introduced:** 1986 **Cost:** $1,995 (standalone); $1,975 (rackmount)

☐ TC 1926EM
Up to 14.4K bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Introduced:** 1986 **Cost:** $3,995 (standalone); $3,975 (rackmount)

☐ TC 212AD
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Standalone; Tone and pulse dialing **Units sold:** 12,000 since 1985 **Cost:** $359

☐ TC 2400PC
Up to 2,400 bps **Comparable to:** Bell 212A; 103A **Transmission:** Asynchronous **Mode:** HDX; FDX **Introduced:** 1986 **Cost:** $499; $549 (includes software)

☐ TC 2400SA
Up to 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Introduced:** 1986 **Cost:** $549; $599 (includes software)

☐ TC 2424
Up to 9,600 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Introduced:** 1986 **Cost:** $795

☐ TC 4700
Up to 300 bps **Comparable to:** Bell 103J **Transmission:** Asynchronous **Mode:** 2-wire FDX; HDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Auto dial and redial **Units sold:** 10,000 since 1978 **Cost:** $325

TELE-SIGNAL CORP.

☐ Model 883P
2,400 bps **Comparable to:** Bell 201A/B **Transmission:** Synchronous **Mode:** HDX **Features:** Multiple data rates **Units sold:** 890 since 1973 **Cost:** $500

TELEBIT CORP.

☐ TrailBlazer
Up to 10K bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Cost:** $2,395

TELENETICS CORP.

☐ ExpressData 12i
300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Answer only; Originate only; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; OEM board config.; Tone and pulse dialing **Units sold:** 2,600 since 1985 **Cost:** $395

☐ ExpressData 24i
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Answer only; Originate only; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; OEM board config.; Tone and pulse dialing **Support equip** Cables; Software **Units sold:** 2,800 since 1985 **Cost:** $595

☐ Model 12A
1,200; 300 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Standalone; CCITT V.22 compatible **Units sold:** 200 since 1986 **Cost:** $345

☐ Model 12i/2
1,200; 300 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; OEM board config.; CCITT V.22, V.22 bis compatible **Units sold:** 300 since 1986 **Cost:** $445

☐ Model 12S
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Answer only; Originate only; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; OEM board config.; Tone and pulse dialing; Optional error control **Support equip** ROM **Units sold:** 1,200 since 1985 **Cost:** $495

☐ Model 12S/R
1,200; 300 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Rackmount; CCITT V.22, V.22 bis compatible **Units sold:** 100 since 1985 **Cost:** $445

☐ Model 24A
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Standalone; CCITT V.22, V.22 bis compatible **Units sold:** 200 since 1986 **Cost:** $495

☐ Model 24i/2
2,400; 1,200; 300 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; OEM board config.; CCITT V.22, V.22 bis compatible **Units sold:** 1,500 since 1986 **Cost:** $545

☐ Model 24S
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Answer only; Originate only; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; Standalone; OEM board config.; Tone and pulse dialing; Optional error control; V.22 bis compatible **Support equip** ROM **Units sold:** 1,400 since 1985 **Cost:** $695

☐ Model 24S/R
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Answer only; Originate only; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; Tone and pulse dialing; V.22 bis compatible **Units sold:** 500 since 1985 **Cost:** $645

☐ Model 9600
9,600; 7,200; 4,800; 2,400 bps; Hayes compatible **Transmission:** Asynchronous; Synchronous **Mode:** HDX **Features:** Alternate voice/data; Auto answer; Auto dial; Auto. adaptive equalizer; Standalone; OEM board config. **Introduced:** 1986 **Cost:** $1,595

TELTONE CORP.

☐ T-300
300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer; Password security system; DTMF to ASCII conversion **Units sold:** 1,000 since 1984 **Cost:** $400

TELXON CORP.

☐ DCM1-202
1,200 bps **Comparable to:** Bell 202 **Transmission:** Asynchronous **Mode:** HDX **Features:** Multiple data rates; Originate/answer **Cost:** $300-$600

☐ DCM2-202
1,200 bps **Comparable to:** Bell 202 **Transmission:** Asynchronous **Mode:** HDX **Features:** Multiple data rates; Originate/answer **Cost:** $300-$600

TEO SYSTEMS, INC.

☐ SmartPro
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Status indicators; Tone and pulse dialing **Support equip** Cables; Software **Units sold:** 500 since 1985 **Cost:** $499

THEALL ENGINEERING CO.

☐ JC-1200A Super Modemphone
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Originate/answer; Status indicators; Standalone; Tone and pulse dialing **Cost:** $290

TNW CORP.

☐ Operator-103
Up to 300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Auto answer; Originate/answer; Auto dial **Units sold:** 500 since 1983 **Cost:** $99

TOUCHBASE DESIGN

☐ TravelComm 1200 Micro
300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Tone dialing; Battery operated **Units sold:** 5,000 since 1985 **Cost:** $249

TRANSCOM, INC.
(subsidiary of Digital Matrix Corp.)

☐ Model 400-1
80 bps **Comparable to:** Bell 401J; 407 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Answer only **Units sold:** 1,200 since 1976 **Cost:** $685

☐ Model 400-3
80 bps **Comparable to:** Bell 403D **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Answer only **Units sold:** 550 since 1977 **Cost:** $660

☐ Model 400-3AN
80 bps **Comparable to:** Bell 403D **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Answer only **Units sold:** 300 since 1978 **Cost:** $780

☐ Model 400-7A/B
80 bps **Comparable to:** Bell 403D **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Answer only **Units sold:** 800 since 1979 **Cost:** $670

☐ Model 400-7C
80 bps **Comparable to:** Bell 403D; 407C **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Answer only **Units sold:** 250 since 1981 **Cost:** $670

TRANSEND CORP.

☐ InfoPHONE IPI-1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Automatic voice/data switching **Support equip** Software **Introduced:** 1984 **Cost:** $359; $499 (includes software)

☐ InfoPHONE IPX-1200
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** FDX **Features:** Auto answer; Auto dial; Standalone; Automatic voice/data switching **Support equip** Software **Introduced:** 1984 **Cost:** $399; $549 (includes software)

TRI-DATA

☐ OZ Guardian Model 533
1,200; 300; 110 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Originate/answer; Status indicators; Password and call back; Log-on sequencing **Support equip** Cables **Units sold:** 6,500 since 1983 **Cost:** $750

TUCK ELECTRONICS, INC.

☐ Model 1653
1,200 bps **Comparable to:** Bell 202C/D **Transmission:** Asynchronous **Mode:** HDX; 4-wire FDX; 2-wire FDX **Features:** Can be used on 2-, 4-wire private line **Support equip** Cables **Introduced:** 1976 **Cost:** $275

☐ Model 1840
Up to 300 bps **Comparable to:** Bell 407C replacement; 100 Series **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Standalone; Computer voice-response path; Touch-tone decoding **Introduced:** 1982 **Cost:** $600

☐ Model 1841
Up to 300 bps **Comparable to:** Bell 407C replacement; 100 Series **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Rackmount; Computer voice-response path; Touch-tone decoding **Introduced:** 1982 **Cost:** $580

☐ Model 1842
Up to 300 bps **Comparable to:** Bell 407C replacement; 100 Series **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Standalone; Computer voice-response path; Touch-tone decoding **Introduced:** 1982 **Cost:** $730

☐ Model 1843
Up to 300 bps **Comparable to:** Bell 407C replacement; 100 Series **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Rackmount; Computer voice-response path; Touch-tone decoding **Introduced:** 1982 **Cost:** $710

☐ Model 1844
Up to 300 bps **Comparable to:** Bell 407C replacement; 100 Series **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Standalone; Computer voice-response path; Touch-tone decoding **Introduced:** 1982 **Cost:** $790

☐ Model 1845
Up to 300 bps **Comparable to:** Bell 407C replacement; 100 Series **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Rackmount; Computer voice-response path; Touch-tone decoding **Introduced:** 1982 **Cost:** $770

☐ Model 1850
300 bps **Comparable to:** Bell 407C replacement; 100 Series **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Standalone; Over 200-word vocabulary in on-board voice synthesizer; Touch-tone decoding **Introduced:** 1983 **Cost:** $895

☐ Model 1851
300 bps **Comparable to:** Bell 407C replacement; 100 Series **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Rackmount; Over 200-word vocabulary in on-board voice synthesizer; Touch-tone decoding **Introduced:** 1983 **Cost:** $995

☐ Model 1852
300 bps **Comparable to:** Bell 407C replacement; 100 Series **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Standalone; Over 200-word vocabulary in on-board voice synthesizer; Touch-tone decoding **Introduced:** 1984 **Cost:** $995

☐ Model 1853
300 bps **Comparable to:** Bell 407C replacement; 100 Series **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Status indicators; Rackmount; Over 200-word vocabulary in on-board voice synthesizer; Touch-tone decoding **Introduced:** 1984 **Cost:** $995

UNIQ FOUR, INC.

☐ UFI Internal Security Modem
300; 1,200 bps **Transmission:** Asynchronous **Mode:** HDX; FDX **Cost:** $449

☐ UFI Security Modem
300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Cost:** $499

☐ UNIQMODEM 1200 HC
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Alternate voice/data; Auto answer; Auto dial; Status indicators; Standalone; Auto-speed **Units sold:** 14,000 since 1985 **Cost:** $389

☐ UNIQMODEM 1200 HCI
300; 1,200 bps **Transmission:** Asynchronous **Mode:** HDX; FDX **Cost:** $289

UNIVERSAL DATA SYSTEMS, INC.
(subsidiary of Motorola, Inc.)

☐ EC224A/D
2,400; 1,200; 300 bps **Comparable to:** Bell 212; 103 **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Introduced:** 1986 **Cost:** $695

☐ FasTalk 1200
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial **Support equip** Software **Introduced:** 1985 **Cost:** $450

☐ FasTalk 1200 PC
0-300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial **Support equip** Software **Introduced:** 1985 **Cost:** $450

☐ FasTalk 2400
0-300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 103; 212 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Auto baud detection **Support equip** Software **Introduced:** 1985 **Cost:** $595 (includes software)

☐ Model 103J
Up to 300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer **Introduced:** 1979 **Cost:** $425

☐ Model 103J LP
Up to 300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Telco line powered **Introduced:** 1980 **Cost:** $165

☐ Model 202S/D
0-1,200 bps **Comparable to:** Bell 202 Series **Transmission:** Asynchronous; Synchronous **Mode:** HDX **Features:** Auto answer; Auto dial **Introduced:** 1985 **Cost:** $495

☐ Model 208A/B
4,800 bps **Comparable to:** Bell 208 **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Alternate voice/data; Auto answer; Auto. adaptive equalizer; Anti-streaming **Introduced:** 1978 **Cost:** $1,295

☐ Model 208AB/AS
4,800 bps **Comparable to:** Bell 208 **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 4-wire FDX **Introduced:** 1986 **Cost:** $1,350

☐ Model 208B/D
4,800 bps **Comparable to:** Bell 208 **Transmission:** Synchronous **Mode:** HDX **Introduced:** 1986 **Cost:** $1,495

☐ Model 208B/LS
4,800 bps **Comparable to:** Bell 208 **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Introduced:** 1986 **Cost:** $1,595

☐ Model 212A
Up to 300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer **Introduced:** 1982 **Cost:** $495

☐ Model 212A LP
0-300; 1,200 bps **Comparable to:** Bell 212A (high-speed ch.) **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Telco line powered **Introduced:** 1984 **Cost:** $195

☐ Model 212A/D
Up to 300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto answer; Originate/answer; Status indicators; Auto dial; Battery-backed telephone number memory; Command menu **Introduced:** 1982 **Cost:** $545

☐ Model 9600A/B
7,200; 9,600; 4,800 bps **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Alternate voice/data; Auto answer; Auto. adaptive equalizer; Status indicators; 30 msec RTS/CTS delay; V.29 compatible in 4-wire **Introduced:** 1983 **Cost:** $1,995

☐ Sync-Up 201C
2,400 bps **Comparable to:** Bell 201 **Transmission:** Synchronous **Mode:** HDX **Features:** Auto answer; Auto dial; Tone and pulse dialing **Support equip** Software **Introduced:** 1985 **Cost:** $685 (includes software)

☐ Sync-Up 208A/B
4,800 bps **Comparable to:** Bell 208 **Transmission:** Synchronous **Mode:** HDX; 4-wire FDX **Features:** Auto answer; Auto dial; Tone and pulse dialing **Support equip** Software **Introduced:** 1985 **Cost:** $1,200 (includes software)

US ROBOTICS, INC.

☐ Autodial 212A
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Originate/answer; Auto dial; Status indicators **Introduced:** 1982 **Cost:** $599

☐ CORE OEM
300; 1,200 bps **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Originate/answer; Auto answer; Auto dial; RJ-11C connection **Introduced:** 1983

☐ Courier 2400; 2400e
Reviewed May 1985 p. 25.
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Originate/answer; Auto. adaptive equalizer; Status indicators; Standalone; Auto dial; Auto answer; Pulse dialing; V.22 bis compatible **Introduced:** 1985 **Cost:** $699

☐ Courier 9600
9,600; 2,400; 1,200 bps **Transmission:** Asynchronous **Mode:** FDX **Introduced:** 1986

☐ Microlink 1200
Reviewed Sep 1985 p. 60.
0-300; 1,200 bps **Comparable to:** Bell 103; 113; 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Auto dial; Originate/answer; Battery backup; Audio line monitor; 64-256K RAM **Units sold:** 3,000 since 1984 **Cost:** $499; $619 (64K); $839 (256K)

☐ **Microlink 2400**
300; 1,200; 2,400 bps **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Originate/answer; Auto. adaptive equalizer; Auto dial; Auto answer; Pulse dialing; V.22 bis compatible **Introduced:** 1985 **Cost:** $699

☐ **Password**
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Multiple data rates; Auto answer; Originate/answer; Auto dial; RJ-11C connection **Introduced:** 1983 **Cost:** $449

☐ **Password 300**
300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer; RJ-11C connection **Introduced:** 1984 **Cost:** $199

☐ **Rackmount 30 Modem System**
2,400; 1,200; 300 bps **Transmission:** Asynchronous **Introduced:** 1986

☐ **USR S100**
300; 1,200 bps **Comparable to:** Bell 103; 113; 212 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Originate/answer; Auto dial; RJ-11C connection **Introduced:** 1983 **Cost:** $499

VEN-TEL, INC.

☐ **EC1200-1**
Up to 300; 1,200 bps **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Originate/answer; Status indicators; Rackmount; Standalone **Support equip** Cables **Units sold:** 50,000 since 1979 **Cost:** $425-$445

☐ **Half Card 24**
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; V.22, V.22 bis compatible **Support equip** Cables **Units sold:** 5,000 since 1983 **Cost:** $695

☐ **MD202-1, 2E**
Up to 1,200 bps **Comparable to:** Bell 202S **Transmission:** Asynchronous **Mode:** HDX **Features:** Auto answer; Originate/answer; Rackmount; Standalone **Support equip** Cables **Units sold:** 10,000 since 1978 **Cost:** $310-$380

☐ **MD212 Security Plus (MD212-7E, 8)**
Up to 300; 1,200 bps **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer; Status indicators; Rackmount; Standalone; Password security; Auto log-on **Support equip** Cables **Units sold:** 6,000 since 1982 **Cost:** $675

☐ **OEM-2121**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; OEM board config. **Units sold:** 50,000 since 1984

☐ **PCM-XT**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial **Support equip** Cables **Units sold:** 5,000 since 1983 **Cost:** $549

☐ **1200 Plus (EC1200-32)**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Status indicators **Support equip** Cables **Units sold:** 20,000 since 1983 **Cost:** $499

☐ **212 Plus (EC1200-31, 41)**
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Auto answer; Originate/answer; Auto dial; Rackmount; Standalone **Support equip** Cables **Units sold:** 100,000 since 1979 **Cost:** $445-$495

☐ **212 Plus II (MD212-5E, 6)**
Up to 300; 1,200 bps **Comparable to:** Bell 103; 113; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Auto answer; Originate/answer; Auto dial; Rackmount; Standalone; Memory dial; Number/protocol/destination memory storage; Software disconnect; Auto log-on **Support equip** Cables **Units sold:** 5,000 since 1982 **Cost:** $585-$625

☐ **2400 Plus (EC2400-32, 42)**
Up to 300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103; 113 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Auto answer; Auto dial; Originate/answer; Rackmount; Standalone; V.22, V.22 bis compatible **Support equip** Cables **Units sold:** 10,000 since 1984 **Cost:** $645-$695

VICTOR TECHNOLOGIES, INC.

☐ **Model 6260**
Up to 300 bps **Cost:** $245

☐ **Model 6261**
1,200 bps **Cost:** $495

☐ **Model 6262**
Up to 300; 1,200 bps **Cost:** $695

VISIONARY ELECTRONICS, INC.

☐ **Visionary 1200XT**
300; 1,200 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Multiple data rates; Reverse channel; Multiport capability; Auto answer; Auto dial; Answer only; Originate/answer; Status indicators; Standalone; Sends and receives independently of host computer; On-board RAM; Clock/calendar; Error correction **Support equip** Cables; Software **Introduced:** 1985 **Cost:** $495 (8K)

VOTRAX, INC.

☐ **DTMF Modem**
Up to 300 bps **Comparable to:** Bell 407 **Transmission:** Asynchronous **Mode:** FDX **Features:** Status indicators; Rackmount; Interfaces Votrax LVM Business Communicator and incoming phone lines **Introduced:** 1980 **Cost:** $700

WESTERN DATACOM

☐ **Datacom 407 Tone Modem**
Comparable to: Bell 407 **Mode:** 2-wire FDX **Features:** Auto dial; Status indicators; Rackmount; Tone and pulse dialing; Automatic speed and parity detection; Last number redial **Units sold:** 221 since 1984 **Cost:** $595

☐ **MESA424**
300; 1,200; 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Cost:** $995

☐ **WorldCom 200 Auto Dial**
Up to 300; 1,200 bps; Hayes compatible **Comparable to:** Bell 103; 113; 202 **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Originate/answer; Status indicators; Auto dial; V.21, V.23, Videotex compatible **Units sold:** 929 since 1983 **Cost:** $495

☐ **424 Error Free**
300; 1,200; 2,400 bps; Hayes compatible **Comparable to:** Bell 212A; 103 **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Alternate voice/data; Auto dial; Originate/answer; Auto. adaptive equalizer; Status indicators; Rackmount; V.22 bis compatible **Units sold:** 1,107 since 1984 **Cost:** $695

WGE INTERNATIONAL, LTD.

☐ **Pico Power Modem I**
300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** 2-wire FDX **Cost:** $230

WOLFDATA, INC.

☐ **X.25 LAPB Modem/PAD**
110; 300; 1,200 bps **Comparable to:** Bell 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Multiple data rates; Alternate voice/data; Auto answer; Auto dial; Originate/answer; Status indicators; Standalone; OEM board config.; Compatible with GTE Telenet and Tymnet packet-switching networks **Units sold:** 2,000 since 1984 **Cost:** $595

WORTHINGTON-BABCOCK, INC.

☐ **TURBOLINK 1200**
300; 1,200 bps; Hayes compatible **Features:** Auto answer; Auto dial; Status indicators; Standalone **Support equip** Cables; Software **Cost:** $280

ZOOM TELEPHONICS, INC.

☐ **Networker**
300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Originate/answer **Units sold:** 20,000 since 1982 **Cost:** $99; $119 (includes Netmaster software)

☐ **ZOOM/MODEM PC 1200**
1,200; 300 bps; Hayes compatible **Comparable to:** Bell 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Auto answer; Auto dial; Auto redial **Units sold:** 5,000 since 1985 **Cost:** $299-$349

☐ **ZOOM/MODEM PC 2400**
300; 1,200; 2,400 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous **Mode:** HDX; FDX **Introduced:** 1986 **Cost:** $499-$549

ACOUSTIC COUPLERS

ANDERSON JACOBSON, INC.

☐ **AJ 1232**
0-300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** 2-wire FDX **Features:** Originate only **Introduced:** 1983 **Cost:** $635

☐ **AJ 1233**
Up to 300; 1,200 bps **Comparable to:** Bell 103; 212A **Transmission:** Asynchronous; Synchronous **Mode:** FDX **Features:** Originate only; Can be used with direct connection **Introduced:** 1982 **Cost:** $635

☐ **AJ 1235**
150; 300; 450; 600 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous; Synchronous **Mode:** HDX; 4-wire FDX **Features:** DDD and private line capabilities **Introduced:** 1981 **Cost:** $595; Lease (mo.) —$52

☐ **AJ 1245**
0-450; 1,200 bps **Comparable to:** Bell 103; 202 **Transmission:** Asynchronous **Mode:** 2-wire FDX; HDX **Features:** Originate/answer; DDD capabilities using DAA **Introduced:** 1978 **Cost:** $545; Lease (mo.) — $47; $42 (1 yr.)

☐ **AJ 242A**
300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** HDX; 4-wire FDX **Features:** Originate only **Introduced:** 1977 **Cost:** $195

BACKUS DATA SYSTEMS, INC.
(subsidiary of Astronautics Corp. of America)

☐ **AC312**
Up to 300 bps **Comparable to:** Bell 100 Series **Transmission:** Asynchronous **Mode:** 2-wire FDX; HDX **Features:** Originate/answer; Status indicators **Units sold:** 20,000 since 1975 **Cost:** $199

COMDATA CORP.

☐ **Model 302C2-13**
Up to 300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Status indicators; Records and stores data on audio cassette recorder; Data on/off switch; Recorder/block switch **Introduced:** 1974 **Cost:** $177

CTS FABRI-TEK, INC.
DATACOMM Products Division

☐ **CTS companionPAC**
0-300 bps **Comparable to:** Bell 103 **Mode:** 2-wire FDX **Features:** Originate/answer; Battery operated **Introduced:** 1984 **Cost:** $79

DATEC, INC. (NC)

☐ Model 30
Up to 300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Originate only; Crystal controlled **Units sold:** 9,213 since 1976 **Cost:** $235

DIGITAL EQUIPMENT CORP.

☐ DF01
Up to 300 bps **Mode:** HDX; 2-wire FDX; 4-wire FDX

☐ DF01-A/JB
Up to 300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Units sold:** 950 since 1978 **Cost:** $345

HEWLETT-PACKARD CO.

☐ HP 82168A
300 bps **Comparable to:** Bell 113 **Cost:** $495

INCOMM DATA SYSTEMS, INC.

☐ AC Acoustic Coupler
300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Originate/answer **Units sold:** 6,900 since 1982 **Cost:** $159

INMAC

☐ Model 8045
Up to 300 bps **Comparable to:** Bell 103A **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Originate/answer; Direct connection **Support equip** Cables **Units sold:** 9,000 since 1980 **Cost:** $179

M/A-COM INFORMATION SYSTEMS, INC.

(division of M/A-COM, Inc.)

☐ Model 242A
110-300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** HDX; FDX **Features:** Originate only

MCDONNELL DOUGLAS INFORMATION SYSTEMS GROUP

(component of McDonnell Douglas Corp.)

☐ Model 900
Comparable to: Bell 103-II **Transmission:** Asynchronous **Mode:** FDX **Features:** Originate only; Status indicators; Operates at 30 cps **Introduced:** 1974 **Cost:** $325; Lease (mo.) —$20

MFJ ENTERPRISES, INC.

☐ MFJ-1233
Up to 300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** 2-wire FDX **Features:** Originate/answer; AC or battery operation **Introduced:** 1981 **Cost:** $130

MISCO, INC., COMPUTER SUPPLIES

☐ Model 1001
300 bps **Comparable to:** Bell 103 **Mode:** FDX **Cost:** $179

MULTI-TECH SYSTEMS, INC.

☐ FM30
Up to 300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX; HDX **Features:** Originate only; Status indicators **Introduced:** 1976 **Cost:** $225

☐ FM31
Up to 300 bps **Comparable to:** Bell 103; 113 **Transmission:** Asynchronous **Mode:** 2-wire FDX; HDX **Features:** Originate/answer; Status indicators **Introduced:** 1979 **Cost:** $265

NOVATION, INC.

☐ CAT Acoustic
Up to 300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Originate/answer; Status indicators **Support equip** Cables; Software **Introduced:** 1978 **Cost:** $169

☐ CCITT CAT
Up to 300 bps **Transmission:** Asynchronous **Mode:** HDX; 2-wire FDX **Features:** Originate/answer; Status indicators **Support equip** Cables; Software **Introduced:** 1980 **Cost:** $299

TANDY/RADIO SHACK

☐ AC-4 (26-1179)
300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** HDX **Features:** Originate/answer **Cost:** $120

TEK-COM CORP.

☐ TC 3001
Up to 300 bps **Comparable to:** Bell 103F; 113A **Transmission:** Asynchronous **Mode:** 2-wire FDX; HDX **Features:** Originate only; DDD via DAA **Units sold:** 3,000 since 1977 **Cost:** $199

☐ TC 3002
Up to 300 bps **Comparable to:** Bell 103F; 113A **Transmission:** Asynchronous **Mode:** 2-wire FDX; HDX **Features:** Originate/answer; DDD via DAA **Units sold:** 4,000 since 1977 **Cost:** $199

TELXON CORP.

☐ AC1-1200
1,200 bps **Comparable to:** Bell 202 **Transmission:** Asynchronous **Mode:** HDX **Features:** Multiple data rates; Originate/answer **Cost:** $100

☐ AC2-1200
600; 1,200 bps **Comparable to:** Bell 202 **Transmission:** Asynchronous **Mode:** HDX **Features:** Multiple data rates; Originate/answer **Cost:** $200-$500

☐ AC2-300
300 bps **Comparable to:** Bell 103 **Transmission:** Asynchronous **Mode:** Simplex **Cost:** $200-$500

TRANSCOM, INC.

(subsidiary of Digital Matrix Corp.)

☐ Model 116 TT
80 bps **Transmission:** Asynchronous **Features:** Originate only **Units sold:** 800 since 1975 **Cost:** $160

☐ Model 160 1T
80 bps **Transmission:** Asynchronous **Features:** Originate only **Units sold:** 15,000 since 1973 **Cost:** $550

LOCAL AREA NETWORKS

ADVANCED TRANSDUCER DEVICES, INC.

☐ Zuckerboard LAN
Topology: Bus **Cabling:** Twisted pair cable **Maximum connections:** 64 **Transmission speed:** 1.2M bps

ALLEN-BRADLEY

Communications Division

☐ LAN/I
Topology: Bus **Discipline:** Broadband **Technique:** Token passing (statistical polling) **Maximum distance:** 14 miles without bridges or repeaters

☐ LAN/II
Topology: Bus **Discipline:** Broadband; Baseband **Maximum distance:** 40 miles without bridges or repeaters **Gateway:** X.25; Ethernet

☐ LAN/PC
Topology: Bus **Discipline:** Broadband **Maximum distance:** 14 miles without bridges or repeaters **Gateway:** BSC; SNA; X.25

APPLITEK CORP.

☐ UniLAN
Topology: Bus; Tree **Discipline:** Broadband; Baseband; Fiberoptic **Technique:** Token passing; Contention; Unilink **Cabling:** Coaxial cable; Optical fiber **Maximum connections:** Baseband-1,000; Broadband-40,000; Optical Fiber-1,000 **Transmission speed:** 10M bps **Maximum distance:** Broadband-30 kilometers; Baseband-2.5 kilometers; Optical Fiber-30 kilometers without bridges or repeaters **Interfaces used:** IEEE-488; RS-232; RS-449; V.35; V.24; Mil. Std. 188 **Gateway:** BSC; SDLC; HDLC; X.25; SNA; Ethernet; T1 **Units sold:** 500 since 1984 **Cost:** $460 (broadband); $420 (baseband); $443 (fiberoptic)

ARTEL COMMUNICATIONS CORP.

☐ FiberWay
Topology: Physical ring (series) **Discipline:** Broadband **Gateway:** Ethernet **Introduced:** 1986

AST RESEARCH, INC.

SEE AD ON PAGES 161/172/173/174/175

☐ AST-PCnet II
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CA) **Cabling:** Twisted pair cable **Maximum connections:** 160 **Transmission speed:** 800K bps **Maximum distance:** 2,500 ft. with bridges or repeaters **Interfaces used:** Gateway: SNA; HDLC **Introduced:** 1984 **Cost:** $495

☐ AST-Resource Sharing Network
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 64 **Transmission speed:** 5M bps **Maximum distance:** 1,500 ft. without bridges or repeaters **Gateway:** BSC; SNA **Introduced:** 1985 **Cost:** $495/node; $1,295 (starter kit)

AT&T INFORMATION SYSTEMS

☐ STARLAN
Topology: Star **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Twisted pair cable **Maximum connections:** 1,200 **Transmission speed:** 1M bps **Interfaces used:** RS-232 **Gateway:** SNA; X.25; Ethernet **Introduced:** 1985 **Cost:** $720-$790

AUTOCONTROL, INC.

☐ ACSOFT/NET
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 255 **Transmission speed:** 848K bps **Maximum distance:** 7,000 ft. without bridges or repeaters **Gateway:** SDLC **Units sold:** 4,000 since 1983 **Cost:** $250

AVATAR TECHNOLOGIES, INC.

☐ Alliance
Topology: Physical ring (addressing) **Discipline:** Baseband **Maximum distance:** 1,000 ft. between stations

B-KOMP, INC.

☐ Net-Worker
Topology: Bus; Tree **Discipline:** Baseband **Technique:** Token passing (statistical polling) **Cabling:** Twisted pair cable; Coaxial cable; Optical fiber **Maximum connections:** 4,080 **Transmission speed:** 2.5M bps **Maximum distance:** 22,000 ft. without bridges or repeaters **Gateway:** SDLC; SNA; X.25; Ethernet **Units sold:** 75 since 1984 **Cost:** $750

BANYAN SYSTEMS, INC.

☐ Network Server
Topology: Physical ring (series); Bus **Interfaces used:** RS-232 **Gateway:** BSC; SDLC; SNA; X.25; Ethernet **Introduced:** 1985

BI-TECH ENTERPRISES, INC.

☐ Star Network
Topology: Star **Technique:** High-speed polling **Maximum connections:** 8 **Transmission speed:** 4M bps **Maximum distance:** 1,000 ft. without bridges or repeaters **Interfaces used:** Parallel **Units sold:** 1,600 since 1983 **Cost:** $325

BRAEGEN CORP.

☐ ELAN 8600
Topology: Bus Introduced: 1986 Cost: $17,995

BRIDGE COMMUNICATIONS, INC.

☐ CS/1-TR
Topology: Physical ring (series) Technique: Token passing (statistical polling) Introduced: 1986 Cost: $16,000; $250/port

BROAD COM, INC.

☐ Synapsistem
Topology: Star Discipline: Broadband Maximum connections: Unlimited Transmission speed: 5M bps Introduced: 1985 Cost: $500

CAD DESIGN SYSTEMS, INC.

☐ CadNET
Topology: Bus Maximum connections: 16 Transmission speed: 800K-1M bps Maximum distance: 3,500 ft. without bridges or repeaters Cost: $595/workstation

CALIFORNIA NETWORK SYSTEMS

☐ NetServer
Introduced: 1985 Cost: $6,225

CENTRAM SYSTEMS WEST, INC.

☐ TOPS
Topology: Bus Discipline: Baseband Technique: Contention (CSMA/CD) Cabling: Twisted pair cable Maximum connections: 32 Transmission speed: 800K bps Maximum distance: 2,000 ft. without bridges or repeaters Interfaces used: RS-232 Gateway: AppleTalk Units sold: 250 since 1984 Cost: $149/Macintosh; $389/PC

CLASSIC TECHNOLOGY, INC.

☐ ClassicNet
Topology: Physical ring (addressing); Star Discipline: Broadband Maximum connections: 16 Transmission speed: 16M bps Maximum distance: 500 ft. without bridges or repeaters Interfaces used: RS-232; RS-422; TTL Units sold: 500 since 1985 Cost: $495

CODENOLL TECHNOLOGY CORP.

☐ Codenet
Topology: Passive star Discipline: Baseband Technique: Contention (CSMA/CD) Cabling: Optical fiber Maximum connections: 1,024 Transmission speed: 10M bps Maximum distance: 2.5 kilometers without bridges or repeaters Interfaces used: RS-232 Gateway: Ethernet Units sold: 1,000 since 1983 Cost: $595

CODEX CORP.
(subsidiary of Motorola, Inc.)

☐ 4000 Series LAN
Topology: Bus Discipline: Broadband; Baseband Technique: Contention (CSMA/CD) Cabling: Coaxial cable Maximum connections: 1,024 Transmission speed: 10M bps Maximum distance: (baseband) 500 meters; (broadband) 9 miles without bridges or repeaters Interfaces used: IEEE-488; RS-232; RS-422; CCITT V.35 Gateway: SNA; Ethernet Introduced: 1984 Cost: $200-$600/port

COMPLEXX SYSTEMS, INC.

☐ XLAN
Topology: Bus Discipline: Baseband Technique: CSMA Cabling: Twisted pair cable; Coaxial cable Maximum connections: 192 Transmission speed: 1M bps Maximum distance: 16,000 ft. without bridges or repeaters Interfaces used: RS-232 Units sold: 1,400 since 1983 Cost: $194/port

CONTEL INFORMATION SYSTEMS, INC.
(subsidiary of Continental Telecom, Inc.)

☐ ContelNet
Topology: Bus; Tree Discipline: Broadband; Baseband Technique: Contention (CSMA/CD) Cabling: Coaxial cable Maximum connections: Unlimited Transmission speed: 2M bps; 10M bps Maximum distance: 5 mile radius without bridges or repeaters Interfaces used: RS-232; BSC; HDLC; TTY Gateway: X.25 Units sold: 50 since 1980 Cost: $850/connection

CORE INTERNATIONAL

☐ COREnet
Topology: Bus Technique: Contention (CSMA/CD) Cabling: Twisted pair cable Maximum connections: 10 Transmission speed: 625K bps Maximum distance: 300 ft. without bridges or repeaters Units sold: 75 since 1981 Cost: $1,300-$2,000

CORVUS SYSTEMS, INC.

☐ Corvus Omninet
Reviewed Sep 1984 p. 56.
Topology: Bus; Bus with branching Discipline: Baseband Technique: Contention (CSMA/CA); Positive Acknowledgement Cabling: Twisted pair cable Maximum connections: 64 Transmission speed: 1M bps Maximum distance: 4,000 ft. without bridges or repeaters Interfaces used: Corvus Transporter (RS-422 on network side) Gateway: SNA Units sold: 25,000 since 1981 Cost: $199/connection

CREATIVE LOGIC

☐ WorkMate
Topology: Bus Discipline: Baseband Technique: Contention (CSMA/CA) Cabling: Twisted pair cable Maximum connections: 8 Transmission speed: 250K bps Maximum distance: 5,280 ft. without bridges or repeaters Interfaces used: RS-422 Units sold: 250 since 1983 Cost: $200

DATAPOINT CORP.

☐ ARCnet
Topology: Bus; Tree Discipline: Baseband Technique: Token passing (statistical polling) Cabling: Coaxial cable Maximum connections: 255 Transmission speed: 2.5M bps Maximum distance: 4 miles with bridges or repeaters; 2,000 ft. without bridges or repeaters Interfaces used: RS-232; Datapoint RIM (Resource Interface Module) Gateway: SNA; HDLC; X.25; TLX; TWX Units sold: 6,000 since 1977 Cost: $600

DELTA DATA SYSTEMS CORP.
Service Division

☐ TEMPEST
Topology: Bus Discipline: Baseband Technique: Contention (CSMA/CD) Cabling: Coaxial cable Maximum connections: 100 Transmission speed: 10M bps Maximum distance: 1,500 ft. without bridges or repeaters Gateway: Ethernet Introduced: 1985

THE DESTEK GROUP

☐ DESNET
Topology: Bus; Logical ring (for fiberoptics only) Discipline: Baseband; Broadband Technique: Contention (CSMA/CA) Cabling: Coaxial cable; Optical fiber Maximum connections: Over 350 Transmission speed: 2M bps Maximum distance: 2 kilometers without bridges or repeaters Interfaces used: IEEE-488; RS-232; 8 or 16-bit parallel; S-100 Bus; Multibus; IBM PC; Q-Bus Gateway: Ethernet Units sold: 500 since 1982 Cost: $400-$600/connection

☐ NIB100/08
Topology: Bus Discipline: Broadband; Baseband Technique: Contention (CSMA/CD) Maximum distance: 3,000 ft. without bridges or repeaters Introduced: 1986 Cost: $650

DEVELCON ELECTRONICS

☐ Develnet
Topology: Cluster Discipline: Broadband Cabling: Twisted pair cable Maximum connections: 8,000 (lines per node) Transmission speed: 24M bps Interfaces used: RS-232; RS-449 serial internode Gateway: X.25; Ethernet Units sold: 100 since 1983 Cost: $250

DIGITAL PRODUCTS, INC.

☐ NetCommander
Topology: Bus; Star Technique: Contention (CSMA/CD) Maximum connections: 48 Transmission speed: 19.2K bps Maximum distance: 1,000 ft. without bridges or repeaters Interfaces used: RS-232 Units sold: 500 since 1984 Cost: $200

EASYNET SYSTEMS, INC.

☐ EasyNet
Topology: Bus Technique: Contention (CSMA/CD) Cabling: Twisted pair cable Transmission speed: 1.5M bps Maximum distance: 1,500 ft. without bridges or repeaters Introduced: 1986 Cost: $495

EXCELAN, INC.

☐ EXOS205
Topology: Bus Discipline: Baseband Technique: Contention (CSMA/CD) Cabling: Coaxial cable Maximum connections: 1,024 Transmission speed: 10M bps Maximum distance: 500 meters without bridges or repeaters Interfaces used: PC Bus Gateway: Ethernet Units sold: 2,000 since 1985 Cost: $995

FIBERCOM, INC.

☐ Whisper Net
Topology: Physical ring (series) Discipline: Baseband Technique: Contention (CSMA/CD) Cabling: Optical fiber Maximum connections: 1,024 Transmission speed: 10M bps Maximum distance: 8 kilometers without bridges or repeaters Interfaces used: RS-232; RS-422 Gateway: Ethernet Introduced: 1985 Cost: $1,000

FOX RESEARCH, INC.
(subsidiary of ComGen Technology)

☐ 10-NET
Topology: Bus Discipline: Baseband Technique: Contention (CSMA/CA) Cabling: Twisted pair cable Maximum connections: 32 Transmission speed: 1M bps Maximum distance: 10,000 ft. with bridges or repeaters Gateway: SNA Introduced: 1984 Cost: $695/node

GAMMA PRODUCTIONS, INC.

☐ Gamma-Net
Topology: Bus Discipline: Baseband Technique: Contention (CSMA/CD) Cabling: Twisted pair cable; Coaxial cable Maximum connections: 256 Transmission speed: 3M bps Maximum distance: 4,000 ft. without bridges or repeaters Units sold: 2,350 since 1983 Cost: $350

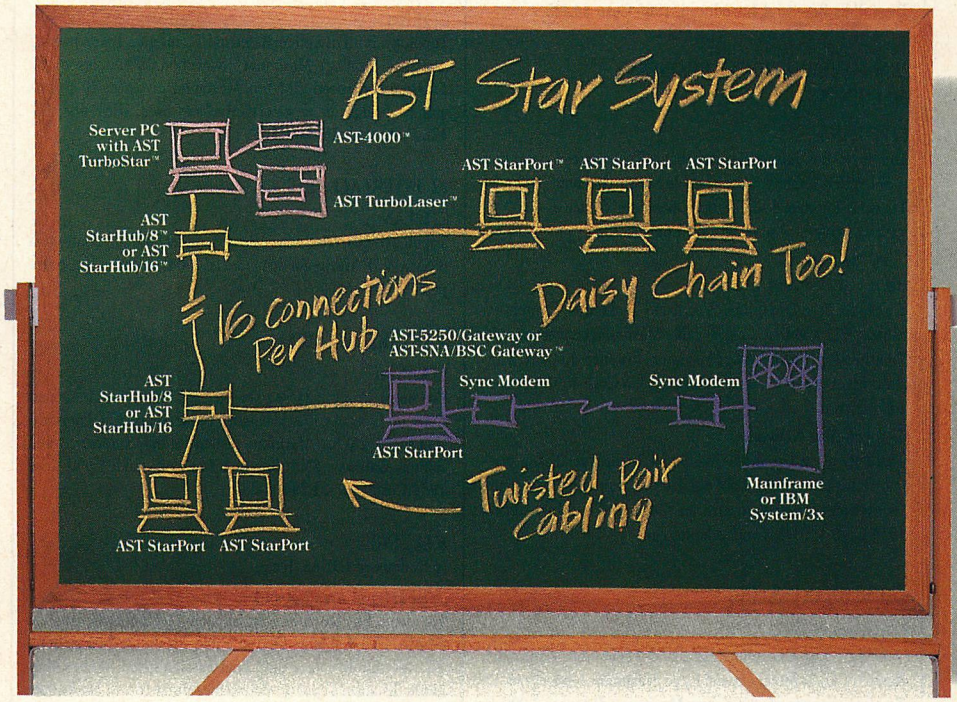
GATEWAY COMMUNICATIONS, INC.

☐ G/NET
Topology: Bus Discipline: Baseband Technique: Contention (CSMA/CD/CA) Cabling: Coaxial cable Maximum connections: 255 Transmission speed: 1.43M bps Maximum distance: 7,000 ft. without bridges or repeaters Gateway: SDLC; HDLC; SNA; X.25 Units sold: 25,000 since 1983 Cost: $525

GRIDCOMM, INC.

☐ GridNet
Topology: Bus Technique: Contention (CSMA/CD) Maximum connections: 32 Transmission speed: 23K bps Interfaces used: RS-232; RS-422; Centronics parallel Introduced: 1986

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HANCOCK ELECTRONICS CORP.

☐ CINCHNET
Topology: Bus **Technique:** Contention (CSMA/CD) **Cabling:** Twisted pair cable **Maximum connections:** 124 **Transmission speed:** 28.8K bps **Maximum distance:** 4,000 ft. without bridges or repeaters **Interfaces used:** RS-232; RS-485; RS-422 **Units sold:** 100 since 1982

HARRIS/LANIER
(formerly Lanier Business Products, Inc.)

☐ Harris 9300
Discipline: Baseband **Technique:** Token passing (statistical polling) **Cabling:** Coaxial cable **Gateway:** BSC; SNA

HONEYWELL INFORMATION SYSTEMS, INC.

☐ Honeywell Server
Discipline: Baseband **Introduced:** 1986 **Cost:** $9,445

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ PC LAN
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 64 **Transmission speed:** 375K bps **Maximum distance:** 3,230 ft. without bridges or repeaters **Introduced:** 1984

☐ PC Network
Reviewed Dec 1984 p. 90.
Topology: Tree **Discipline:** Broadband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 72 **Transmission speed:** 2M bps **Maximum distance:** 1,000 ft. without bridges or repeaters **Introduced:** 1985 **Cost:** $595/network adapter card

☐ Token-Ring Network
Topology: Ring **Discipline:** Baseband **Technique:** Token passing (statistical polling) **Cabling:** Twisted pair cable **Maximum connections:** 2-260 **Transmission speed:** 4M bps **Introduced:** 1986 **Cost:** $895/network adapter card

IDEASSOCIATES, INC.

☐ IDEAnet
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 20 **Transmission speed:** 800K bps **Maximum distance:** 2,000 ft. without bridges or repeaters **Cost:** $475

☐ IDEAshare
Topology: Star **Discipline:** Baseband **Technique:** Token passing (statistical polling) **Maximum connections:** 4 **Transmission speed:** 115K bps **Maximum distance:** 100 ft. without bridges or repeaters **Interfaces used:** RS-232 **Introduced:** 1983 **Cost:** $595

INDTECH, INC.

☐ GEnet
Topology: Bus **Discipline:** Broadband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 4 RS-232C devices per I/O card; 64,000 (per ch.) **Transmission speed:** 1M-3M bps **Maximum distance:** 3 miles without bridges or repeaters **Interfaces used:** RS-232; DR11W **Gateway:** SNA; DECNET **Units sold:** 470 since 1983 **Cost:** $1,000-$1,200 (minimum system 4 ports)

INTELLIGENT COMMUNICATIONS NETWORKS, INC. (INCOMNET)

☐ INCOMNET 3000
Topology: Dual ring **Discipline:** Baseband **Technique:** Token passing (statistical polling) **Cabling:** Twisted pair cable **Maximum connections:** 126 **Transmission speed:** 3.5M bps **Interfaces used:** RS-232; RS-422 **Gateway:** SDLC; HDLC

INTELLIGENT DATA SYSTEMS, INC.

☐ B-650 (I-NET)
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Twisted pair cable **Maximum connections:** 127 **Transmission speed:** 1.2M bps **Maximum distance:** 4,000 ft. without bridges or repeaters **Interfaces used:** RS-422 **Units sold:** 2,000 since 1985 **Cost:** $395

INTERCONTINENTAL MICRO SYSTEMS CORP.

☐ TurboLAN
Topology: Bus; Star **Discipline:** Baseband **Technique:** Token passing (statistical polling) **Cabling:** Twisted pair cable; Coaxial cable **Maximum connections:** 4,000 **Transmission speed:** 2.5M bps **Maximum distance:** 40 miles without bridges or repeaters **Gateway:** ARCnet **Units sold:** 550 since 1984 **Cost:** $250

INTERNATIONAL ELECTRONICS CORP. (IEC)

☐ M-Net
Topology: Bus **Discipline:** Baseband **Technique:** Token passing (statistical polling) **Maximum connections:** Multiples of 30 **Transmission speed:** 2M bps **Maximum distance:** 40 meters without bridges or repeaters **Interfaces used:** IEEE-488; RS-422 **Units sold:** 16 since 1982

I2 INTERFACE, INC.

☐ I2LAN
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Maximum distance:** 10,000 ft. with bridges or repeaters **Cost:** $495

KANTEK, INC. (WA)

☐ KANnet
Topology: Proprietary segmented ring **Discipline:** Baseband **Cabling:** Coaxial cable **Maximum connections:** 254 **Transmission speed:** 2M bps **Maximum distance:** 1,000 meters between stations **Gateway:** SNA; Sperry UT40 **Units sold:** 1,000 since 1984 **Cost:** $995-$1,295/node

KEE, INC.
(subsidiary of IDEAS, Inc.)

☐ KEE Local Area Network
Topology: Bus **Discipline:** Broadband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 2-32 (per Bus Interface Unit) **Transmission speed:** 2M bps **Maximum distance:** Topology determines distance without bridges or repeaters **Interfaces used:** RS-232; RS-422; Mil Std. 188C; Centronics parallel **Gateway:** BSC; SDLC; HDLC; X.25 **Units sold:** 8,000 since 1981 **Cost:** $200-$400/port

LEE DATA CORP.

☐ LANMASTER
Topology: Bus **Discipline:** Broadband **Technique:** Contention (CSMA/CD) **Gateway:** Ethernet; ARCNet; PC Network; OminiNet; ProNET

M/A-COM TELECOMMUNICATIONS DIVISION

☐ IDX3000
Topology: Star **Discipline:** Baseband; Bell T1, DS1 **Cabling:** Twisted pair cable; Microwave **Maximum connections:** 3,072 line **Transmission speed:** 19.2K bps (per ch.) **Maximum distance:** 3 miles (36 sq. miles) without bridges or repeaters **Interfaces used:** RS-232; T1 **Gateway:** T1 **Units sold:** 65 since 1982 **Cost:** $110-$150/line

☐ IDX750
Topology: Star **Discipline:** Bell T1, DS1 **Cabling:** Twisted pair cable; Microwave **Maximum connections:** 768 line **Transmission speed:** 19.2K bps (per ch.) **Maximum distance:** 1 mile without bridges or repeaters **Interfaces used:** RS-232; T1 **Units sold:** 2 since 1985 **Cost:** $98/line

MAGNOLIA MICROSYSTEMS, INC.

☐ MAGNet
Topology: Bus; Logical ring; Star **Discipline:** Baseband **Technique:** Token passing **Cabling:** Twisted pair cable **Maximum connections:** 64 **Transmission speed:** 500K bps **Maximum distance:** 2,000 ft. without bridges or repeaters **Interfaces used:** RS-232; S-100 Bus; IBM PC **Units sold:** 100 since 1983 **Cost:** $695

MICOM/INTERLAN, INC.
(subsidiary of MICOM Systems, Inc.)

☐ NET/PLUS
Topology: Bus; Physical ring (addressing) **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Maximum connections:** 1,-024 **Transmission speed:** 10M **Maximum distance:** 500 meters without bridges or repeaters

MICOM SYSTEMS, INC.

☐ INSTANET
Topology: Unconstrained **Discipline:** Baseband **Technique:** Dedicated paths/Circuit switch **Cabling:** Twisted pair cable **Maximum connections:** 1,504 **Transmission speed:** 1.544M bps **Maximum distance:** 1 mile with bridges or repeaters **Interfaces used:** RS-232 **Gateway:** X.25; SNA **Units sold:** 2,000 since 1983 **Cost:** $100-$575

MODCOMP

☐ MAXNET IV
Topology: Star **Discipline:** Baseband **Cabling:** Coaxial cable; Twisted pair cable **Maximum connections:** Up to 100 node **Transmission speed:** (parallel) 800K bps; (serial) 1.5M bps **Maximum distance:** 3 kilometers without bridges or repeaters **Interfaces used:** IEEE-488; RS-232; WE 301/303; CCITT V.35, V.23; Current loop; RS-422; RS-423 **Units sold:** 200 since 1974 **Cost:** $300-$3,000

MOLECULAR COMPUTER

☐ System 16/300
Topology: Physical ring (addressing); Linear

MONROE SYSTEMS FOR BUSINESS

☐ Monroe-Net
Topology: Bus **Technique:** Contention (CSMA/CD) **Maximum distance:** 3,500 ft. without bridges or repeaters **Cost:** $595/PC node

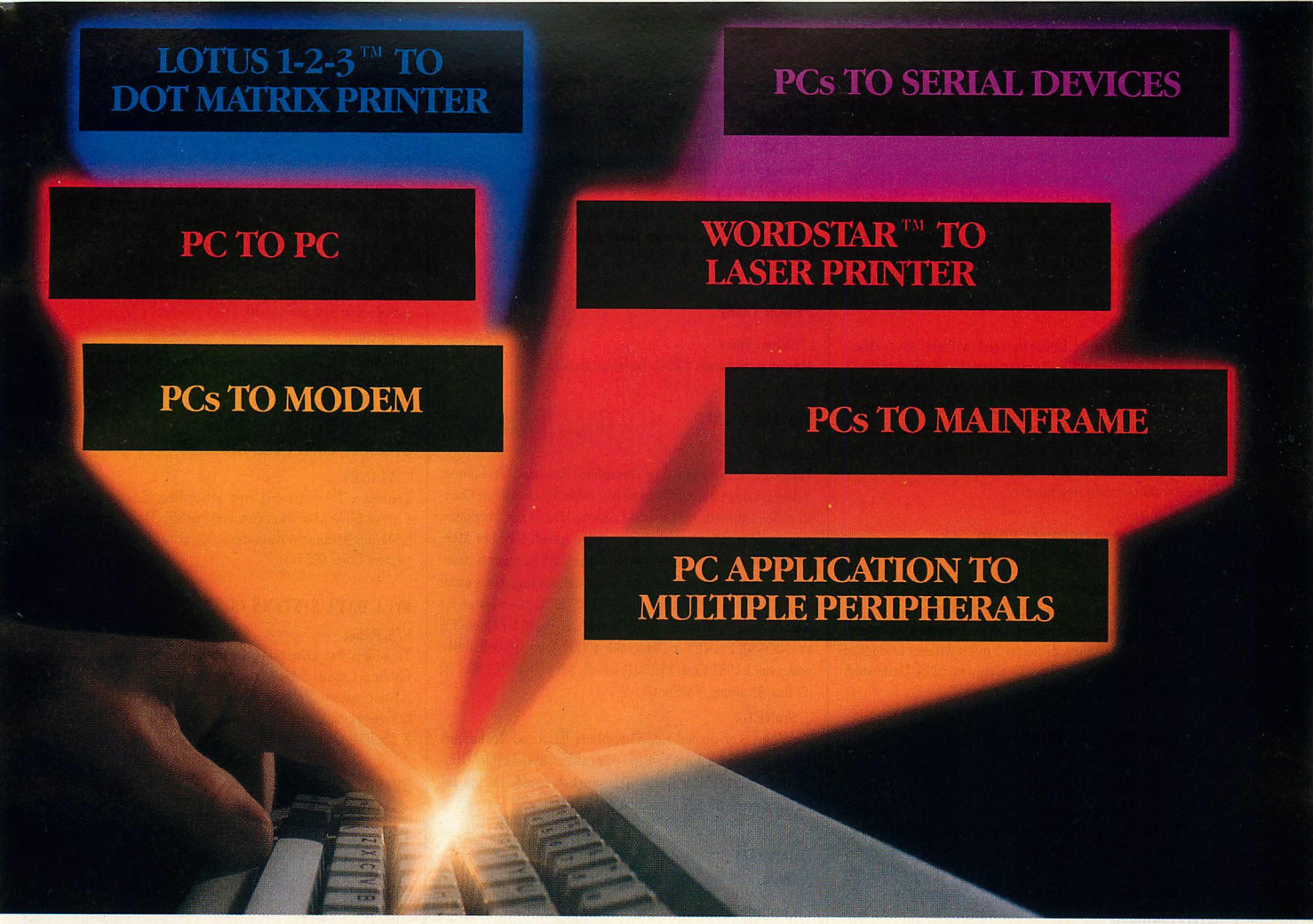
NCR CORP.

☐ PC2PC
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CA) **Cabling:** Twisted pair cable **Maximum connections:** 64 **Transmission speed:** 1M bps **Maximum distance:** 2,400 ft. with bridges or repeaters **Interfaces used:** RS-232 **Introduced:** 1985 **Cost:** $495

NESTAR SYSTEMS, INC.

☐ PLAN 3000
Topology: Bus **Discipline:** Baseband **Technique:** Token passing (statistical polling) **Cabling:** Coaxial cable; IBM cable system **Maximum connections:** 255-260 **Transmission speed:** 4M bps **Maximum distance:** 4 miles, 2,000 ft. between stations **Interfaces used:** RS-232 **Gateway:** SNA; File transfer server; Telex server **Units sold:** 3,000 since 1982 **Cost:** $595/network interface card; $695/token ring adapter

☐ PLAN 3000B
Topology: Bus **Discipline:** Baseband **Technique:** Token passing (statistical polling) **Cabling:** Coaxial cable **Maximum connections:** 10 **Transmission speed:** 4M bps **Maximum distance:** 4 miles, 2,000 ft. between stations **Interfaces used:** RS-232 **Gateway:** SNA; File transfer server; Telex server **Introduced:** 1985 **Cost:** $16,995



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☐ PLAN 4000
Reviewed Feb 1984 p. 58.
Topology: Bus; Starburst; Unconstrained (without loops) **Discipline:** Baseband **Technique:** Token passing (statistical polling); Token ring **Cabling:** Coaxial cable; IBM cable system **Maximum connections:** 255-260 **Transmission speed:** 4M bps **Maximum distance:** 4 miles, 2,000 ft. between stations **Interfaces used:** RS-232 **Gateway:** SNA; File transfer server; IBM 3270, 3780 emulators; Telex server **Units sold:** 2,300 since 1982 **Cost:** $595/network interface card; $695/token ring adapter

☐ PLAN 5000
Topology: Bus; Starburst; Unconstrained (without loops) **Discipline:** Baseband **Technique:** Token passing (statistical polling); Token ring **Cabling:** Coaxial cable; IBM cable system **Maximum connections:** 255-260 **Transmission speed:** 4M bps **Maximum distance:** 4 miles, 2,000 ft. between stations **Interfaces used:** RS-232 **Gateway:** SNA; File transfer server; IBM 3270, 3780 emulator **Units sold:** 120 since 1985 **Cost:** $595/network interface card; $695/token ring adapter

NETWORK DEVELOPMENT CORP.

☐ DNA
Topology: Star; Multi-drop star **Discipline:** Baseband **Technique:** Token passing (statistical polling) **Cabling:** Twisted pair cable **Maximum connections:** 64-1,000 **Transmission speed:** 800K-1.2M bps **Maximum distance:** 2 miles without bridges or repeaters **Interfaces used:** RS-422 **Gateway:** SNA **Units sold:** 15,000 since 1983 **Cost:** $395

NETWORK SYSTEMS CORP.

☐ HYPERbus
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CA) **Cabling:** Coaxial cable; Optical fiber **Maximum connections:** Unlimited **Transmission speed:** 10M bps **Maximum distance:** 5,000 ft. without bridges or repeaters **Interfaces used:** RS-232; 3270; 8 or 16-bit parallel DMA; T1; Satellite **Units sold:** 3,800 since 1983 **Cost:** $495-$6,000/connection

☐ HYPERchannel
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CA) **Cabling:** Coaxial cable **Maximum connections:** 256 **Transmission speed:** 50M bps **Maximum distance:** 10,000 ft. between stations **Gateway:** Link adapter to carrier facilities (including satellites); Network adapters for CPU/CPU transfer; TCP/IP **Units sold:** 4,300 since 1977 **Cost:** $40,000

NORTHERN TELECOM, INC.
Integrated Office Systems (IOS) Division

☐ LANSTAR
Topology: Star **Discipline:** Baseband **Cabling:** Twisted pair cable **Maximum connections:** 5,000-30,000 **Transmission speed:** 2.56M bps **Maximum distance:** 4,000 ft. without bridges or repeaters **Interfaces used:** RS-232 **Gateway:** X.25 **Units sold:** 20 since 1985 **Cost:** $295-$700

NOVELL, INC.

☐ Model 286A
Topology: Physical ring (series); Bus **Discipline:** Baseband **Cost:** $9,395

☐ Model 286B
Topology: Physical ring (series); Bus **Discipline:** Baseband **Cost:** $13,995

☐ Model 68B
Topology: Physical ring (series); Bus **Discipline:** Baseband **Cost:** $7,000

☐ NETWARE/S-Net
Topology: Star **Discipline:** Baseband **Cabling:** Twisted pair cable **Maximum connections:** 24 **Transmission speed:** 600K bps **Maximum distance:** 1,500 ft. between stations **Gateway:** SNA **Units sold:** 3,000 since 1982 **Cost:** $582

☐ NETWARE/86
Reviewed Nov 1985 p. 102.
Topology: Logical ring; Linear **Maximum connections:** 255 **Gateway:** SNA **Introduced:** 1983 **Cost:** $525-$849

ORCHID TECHNOLOGY, INC.

☐ PCNET
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 255 **Transmission speed:** 1M bps **Maximum distance:** 7,000 ft. without bridges or repeaters **Gateway:** SNA **Units sold:** 35,000 since 1982 **Cost:** $495/node

PRIAM CORP.

☐ Shared Space
Maximum distance: 132 ft. between stations

PROTEON, INC.

☐ ProNET-10
Topology: Star-shaped ring **Discipline:** Baseband **Technique:** Token passing **Cabling:** Twisted pair cable; Optical fiber; Coaxial cable; Infrared; IBM cabling system; Microwave **Maximum connections:** 255/network **Transmission speed:** 10M bps **Maximum distance:** 240 meters (twisted pair); 2.5 kilometers (fiberoptic); 300 meters (infrared) between stations **Interfaces used:** Terminal Interface Unit for up to 16 RS-232C ports **Gateway:** X.25; Ethernet; Arpanet; IBM channel; TCP/IP; DECnet; T1; ProNET-80; ProNET-4 **Units sold:** 400 systems; 10,000 active nodes since 1981 **Cost:** $3,150 (Unibus); $799 (IBM PC); $2,700 (Q-Bus, Multibus, VMEbus)

☐ ProNET-4
Topology: Star-shaped ring **Discipline:** Baseband **Technique:** Token passing **Cabling:** Twisted pair cable; Coaxial cable; Optical fiber; IBM cabling system **Transmission speed:** 4M bps **Interfaces used:** RS-232 **Introduced:** 1985

QUADRAM
(subsidiary of Intelligent Systems Corp.)

☐ Quadnet IX
Topology: Star **Discipline:** Baseband **Technique:** Token passing (statistical polling) **Cabling:** Twisted pair cable; Optical fiber; Twinax cable **Maximum connections:** 255 **Transmission speed:** 10M bps **Maximum distance:** 100 ft. without bridges or repeaters **Gateway:** SNA **Introduced:** 1984 **Cost:** $795

☐ Quadnet VI
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CD/CA) **Cabling:** Coaxial cable **Maximum connections:** 255 **Transmission speed:** 1.43M bps **Maximum distance:** 4,000 ft. without bridges or repeaters **Gateway:** SNA **Introduced:** 1984 **Cost:** $595

RACET COMPUTES, LTD.

☐ MUXNET
Topology: Star **Technique:** Polling **Maximum connections:** 16 **Transmission speed:** 400K bps **Maximum distance:** 50 ft. without bridges or repeaters **Units sold:** 50 since 1979 **Cost:** $400

RACORE COMPUTER PRODUCTS, INC.

☐ LANpac
Topology: Ring **Technique:** Token passing (statistical polling) **Cabling:** Coaxial cable **Maximum connections:** 250 **Transmission speed:** 2M bps **Maximum distance:** 1,000 ft. between stations **Interfaces used:** RS-232

SIECOR CORP.

☐ Fiberoptic Ethernet
Topology: Physical star/Logical bus **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Optical fiber **Maximum connections:** Over 4,000 **Transmission speed:** 10M bps **Maximum distance:** 2.5 kilometers without bridges or repeaters **Interfaces used:** IEEE-488; RS-232 **Gateway:** Ethernet **Units sold:** 200 since 1983

SPARTACUS, INC.

☐ K200 Ethernet Control Unit
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 512 **Transmission speed:** 10M bps **Maximum distance:** 1,500 meters without bridges or repeaters **Gateway:** BSC; Ethernet **Units sold:** 300 since 1984

SPERRY CORP.
Information Systems Group

☐ DS100
Topology: Bus **Maximum connections:** 63 **Maximum distance:** 1,000 ft. between stations **Interfaces used:** RS-232 **Introduced:** 1985

STEARNS COMPUTER SYSTEMS

☐ VIANET
Topology: Token-passing ring **Discipline:** Baseband **Cabling:** Coaxial cable **Maximum connections:** 255 **Transmission speed:** 2.5M bps **Maximum distance:** 2,000 ft. without bridges or repeaters **Cost:** $525

SYFA DATA SYSTEMS CORP.

☐ SyFAnet
Topology: Bus **Discipline:** Broadband **Technique:** CSMA/CA **Cabling:** Coaxial cable **Maximum connections:** 256 node **Transmission speed:** 3M bps **Maximum distance:** 3,000 ft. without bridges or repeaters **Interfaces used:** RS-232 **Gateway:** SNA; X.25; BSC **Units sold:** 84 since 1983 **Cost:** $2,500-$5,600

SYTEK, INC.

☐ Model 6610
Topology: Physical ring (series); Bus **Discipline:** Broadband **Technique:** Token passing (statistical polling)

TECMAR, INC.

☐ eLAN
Topology: Bus **Gateway:** Ethernet **Cost:** $1,795

TIARA COMPUTER SYSTEMS, INC.
SEE AD ON PAGE 165

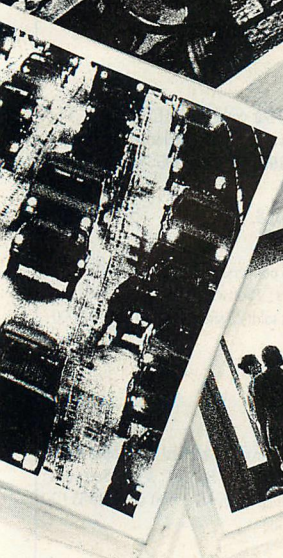
☐ Tiara MultiLink
Reviewed Mar 1984 p. 78.
Topology: Bus **Discipline:** Baseband **Technique:** Token passing (statistical polling) **Cabling:** Coaxial cable **Maximum connections:** 255 **Transmission speed:** 2.5M bps **Maximum distance:** 20,000 ft. without bridges or repeaters **Gateway:** ARCnet **Units sold:** 15,000 since 1983 **Cost:** $400

TIENET, INC.

☐ TIENET
Topology: Bus; Non-rooted tree **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable; Twisted pair cable **Maximum connections:** 200 (24,000 stations) **Transmission speed:** 1M bps **Maximum distance:** 5 miles without bridges or repeaters **Interfaces used:** RS-232; RS-449 **Gateway:** BSC; HDLC **Units sold:** 4 since 1979 **Cost:** $700/station average; $450 (400 stations); $740 (12 stations)

UNGERMANN-BASS, INC.

☐ Net/One
Topology: Bus **Discipline:** Baseband; Broadband; Fiberoptic **Technique:** Broadband/Baseband-CSMA/CD **Cabling:** Coaxial cable; Optical fiber **Maximum connections:** 2,400 per network segment baseband; 36,000 broadband **Transmission speed:** 10M bps baseband; 5M bps broadband; 10M bps fiberoptic **Maximum distance:** 2,500 meters baseband; 10 miles broadband; 2,800 meters fiberoptic without bridges or repeaters **Interfaces used:** IEEE-488; RS-232; RS-449; 8, 16, 32-bit parallel; DEC DR11-W/B **Gateway:** Ethernet; SNA; X.25; V.35 **Units sold:** 20,000 since 1980




Some people need low price AND high performance in their LAN...

People like Resellers, Distributors, OEMs, VARs, End Users.

People who sell LANs and people who use LANs will tell you: TiaraLink is *the* Price/Performance leader in local area networks.

Their reasons are sound. TiaraLink supports DOS 2.0 through 3.2 and a complete NetBIOS. So network applications written to these standards run on TiaraLink. Thousands of TiaraLink networks are installed worldwide on IBM* PC, XT, AT and compatible computers. LanWare™, our powerful, full-featured network operating system, is a one-time purchase regardless of the number of stations on the network. So your cost-per-station *decreases* as the network grows!

And, using gateways, you can get additional performance from your network PCs because they can operate a single system as both a terminal to a remote mainframe, and as a network PC.

Distributors. OEMs. Dealers. VARs. End users. All are convinced TiaraLink is unrivaled — in performance *and* price. Here's what they say about TiaraLink:

Ask them about TiaraLink.™

"TiaraLink is an excellent product for us to carry. ARCnet is a proven technology, around since 1978. Although ARCnet can be utilized with other companies' software, we still recommend TiaraLink. Tiara, the company, is great in terms of support, product availability, and margins. Customer reaction is super."*

— Bob Putignano, President
Access Data Products, Inc.
Mt. Vernon, NY

"TiaraLink is the only high-performance LAN on the market with reasonable software pricing. That fact, combined with its ease of installation and operation, total reliability, fault recovery, and multiple server capability is why we chose TiaraLink to distribute with our computers."

— Alan D. Dale, President
OnSite Business Systems, Inc.
a division of Dale Computer Corporation
Okemos, MI

"Dependability and flexibility of TiaraLink has been a major asset to us...During the last 18 months, we have undergone extensive remodeling and expansion. Network PCs are moved and configurations changed every day. With TiaraLink we have been able to stay ahead of the game! The ability to support multiple operating systems and peer-level network resources has enabled us to incrementally add new capabilities without changing existing networks. I strongly recommend TiaraLink to every serious LAN user."

— Donald Dornbush, Director — Data Processing
Michigan Education Data Network Assn.
E. Lansing, MI

"The TiaraLink network has allowed (us) to grow from 5 nodes to over 100 nodes with no problems. We continue to add disks, printers, and plotters easily . . . Even with over 400 megabytes of storage in 17 hard disks, user response time is great!"

— Gerd Hoeren, Sr. Software Engineer
Integrated Measurement Systems, Inc.
Beaverton, OR

"Canadian Pacific Air Lines has adopted TiaraLink for installing local area networks in Canadian travel agencies . . . Each agency shares printers; a real-time, interactive accounting system running on a hard disk; and a communications gateway to Canadian-Pacific's reservation system in order that all PCs can act as on-line reservation terminals. TiaraLink, with its high performance token-passing architecture, was the only network that could adequately handle these demanding performance requirements."

— Peter Munro, Research & Development Coordinator
CP Air, Vancouver, British Columbia

Join the knowledgeable network of Tiara resellers. Call us today at **1-800-423-1268.** In California call **1-800-325-6223.** Or write us for more facts on TiaraLink. Discover for yourself why TiaraLink is the Price/Performance leader. Reseller inquiries are invited.

TIARA
COMPUTER SYSTEMS, INC.

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XEROX CORP.

☐ Ethernet
Topology: Bus; Physical ring (addressing) **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 1,024 **Transmission speed:** 10M bps **Maximum distance:** 1.5 miles without bridges or repeaters **Interfaces used:** RS-232 **Gateway:** SNA; Ethernet **Units sold:** 800 since 1980 **Cost:** $750 (depends on equipment type)

☐ XC22
Topology: Star **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Twisted pair cable **Maximum connections:** 200 **Transmission speed:** 1M bps **Maximum distance:** 800 ft. between stations **Gateway:** SNA

☐ XC24
Topology: Bus **Discipline:** Baseband **Technique:** Contention (CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 900 **Transmission speed:** 10M bps **Gateway:** SNA

☐ XC80
Topology: Bus **Discipline:** Baseband **Gateway:** SNA; Ethernet

XYPLEX, INC.

☐ The XYPLEX System
Topology: Bus **Discipline:** Broadband; Baseband **Technique:** Contention (CSMA/CA; CSMA/CD) **Cabling:** Coaxial cable **Maximum connections:** 32,000 **Transmission speed:** 1-10M bps **Maximum distance:** 6 miles without bridges or repeaters **Interfaces used:** RS-232; DEC Unibus **Gateway:** SNA **Units sold:** 750 since 1982 **Cost:** $300/connection

EXPANSION BOARDS

ABM COMPUTER SYSTEMS

☐ AT Superboard
Functions: 3584 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ IBM PC AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $475

☐ Bright Modem
Functions: 300-1,200 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1986 ☐ Cost: $199

☐ ICP Board
Functions: 64 kbytes RAM memory ☐ 4 serial port(s); 1 parallel port(s) ☐ Synchronous mainframe link ☐ IBM 3274/76/78 terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $795-$2,585

☐ MEM 512
Functions: 0-512 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 15,000 since 1983 ☐ Cost: $195-$515

☐ MINI-EMS
Functions: 256-1536 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Introduced: 1986 ☐ Cost: $169

☐ MINI-512K
Functions: 512 kbytes RAM memory ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1986 ☐ Cost: $119

☐ MIO
Functions: 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1986 ☐ Cost: $169

☐ Omniboard
Functions: 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 10,000 since 1982 ☐ Cost: $215-$275

☐ Superboard
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 25,000 since 1983 ☐ Cost: $275-$535

☐ X2C
Functions: 256-2048 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Cost: $469

☐ 512K-MCR
Functions: 512 kbytes RAM memory ☐ Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1986 ☐ Cost: $149

ACS INTERNATIONAL, INC.
SEE AD ON PAGE 167

☐ GraphAX 20/20
Functions: 2500 kbytes RAM memory ☐ 32 color graphics ☐ IBM PC, XT, AT, RT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 500 since 1985 ☐ Cost: $2,995

ACTION INSTRUMENTS

☐ A/D Cards
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Cost: $250

☐ AI016
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, 5531 and compatibles ☐ Cost: $1,225

☐ AI04
Functions: A/D and/or D/A conversion; Process control ☐ IBM PC, XT, 5531 and compatibles ☐ Cost: $850

☐ AI08
Functions: A/D and/or D/A conversion; Process control ☐ IBM PC, XT, 5531 and compatibles ☐ Cost: $695

☐ A06
Functions: A/D and/or D/A conversion; Process control ☐ IBM PC, XT, 5531 and compatibles ☐ Cost: $895

☐ DIM32/DOM32
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, 5531 and compatibles ☐ Cost: $250

☐ RTD15
Functions: Process control ☐ RTD Input Card ☐ IBM PC, XT, 5531 ☐ Cost: $1,150

☐ SG04
Functions: Process control ☐ Strain-gauge input card ☐ IBM PC, XT, 5531 and compatibles ☐ Cost: $1,225

☐ TC15
Functions: Process control ☐ Thermocouple Input Card ☐ IBM PC, XT, 5531 and compatibles ☐ Cost: $1,150

ADAPTEC, INC.

☐ ACB-2070A
Functions: Controller for Hard disk ☐ IBM PC, XT

ADAPTIVE DATA SYSTEMS, INC. (ADSI)

☐ MASTER LINK
Functions: SASI/SCSI ☐ IBM PC ☐ Full length ☐ Units sold: 7,000 since 1983 ☐ Cost: $150 (qty. 1,000)

ADD-MEM

☐ PCM-KPC
Functions: 64-256 kbytes RAM memory ☐ IBM PC ☐ Units sold: 2,000 since 1983 ☐ Cost: $100-$335

☐ 768K-PC-1,2
Functions: 768 kbytes RAM memory ☐ IBM PC ☐ Units sold: 500 since 1985 ☐ Cost: $250-$350

ADVANCED COMPUTER TECHNOLOGY

☐ ACT 2000
Functions: Telex board ☐ IBM PC, XT, AT and compatibles ☐ Introduced: 1986 ☐ Cost: $495

ADVANCED DATA PROCESSING SYSTEMS

☐ BCRI
Functions: 1 serial port(s) ☐ Bar code reader ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $595

ADVANCED PERIPHERALS, INC.

☐ MIDAS
Functions: A/D and/or D/A conversion; Process control ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 25 since 1985 ☐ Cost: $2,000

ADVANCED STORAGE CONCEPTS, INC.

☐ ASC-88
Functions: SASI/SCSI ☐ Controller for Hard disk; Mag tape; Cartridge tape; Optical disk ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Units sold: 500 since 1985 ☐ Cost: $249

ADVANCED TRANSDUCER DEVICES, INC.

☐ Color Graphics
Functions: Resolution: 320/640x200/400; 4 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT, AT, Portable and compatibles ☐ Half length ☐ Units sold: 30,000 since 1985 ☐ Cost: $199

☐ Expansion Memory
Functions: 576 kbytes RAM memory ☐ IBM PC, XT, Portable and compatibles ☐ Half length ☐ Units sold: 10,000 since 1985 ☐ Cost: $119

☐ Expansion Memory Plus
Functions: 576 kbytes RAM memory ☐ RAM disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, Portable and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 500 since 1986 ☐ Cost: $229

☐ Platinum Color Graphics Plus
Functions: Resolution: 640/320x400/200; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT, Portable and compatibles ☐ Software supplied ☐ Half length ☐ Units sold: 500 since 1986 ☐ Cost: $229

☐ Platinum EGA Plus
Functions: Resolution: 720x348; color graphics ☐ IBM PC ☐ Half length ☐ Cost: $499

☐ Platinum Monochrome Text & Graphics
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT, Portable and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 1,500 since 1985 ☐ Cost: $249-$679

☐ Platinum Zuckerboard LAN
Functions: LAN connection ☐ IBM PC, XT, AT, Portable and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 5,000 since 1985 ☐ Cost: $445-$795

AJIDA TECHNOLOGIES, INC.

☐ PC/VME Master
Functions: IBM PC/VMEbus interface ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 100 since 1985 ☐ Cost: $835

ALDIA SYSTEMS, INC.

☐ PC-PROMPAK
Functions: 8-64 kbytes RAM memory ☐ IBM PC and compatibles ☐ Half length ☐ Cost: $125



Push Back The Envelope:

10/6 & 12.5 MHz

AT Compatibility

IBM obviously positioned the AT as the hub of the microcomputer network. ACS has included what IBM left out.

SPEED The ET-286 nearly doubles the clock speed of the AT at 10 MHz and we are already 12.5 MHz capable. With access to 4 Megabytes of on-board memory via a 5MHz DMA bus, the ET-286 bypasses additional wait states required to maintain compatibility with expansion bus memory. With memory intensive network software like Unix and Xenix, this becomes critical. Naturally, the ET-286 toggles from HyperSpeed at 10MHz to 100% 6MHz compatibility for those applications that demand it.

COMMUNICATIONS The ET-286 plus is designed with communications in mind. There are three on-board serial ports that are configurable as either RS-422 or RS-232 depending on your application. 2 parallel ports further extend your communications ability. And there are still 8 expansion slots for additional I/O.

AN ACCESSIBLE SOURCE Part of the success of the ACS-1000 and our other products is the availability of our people. We provide the support that OEM's need in order to win major contracts — engineering support, competitive pricing, even specialized packaging. Service is the key issue in the information marketplace and we provide the kind of service and reliability that you can only find in an American made product.

ACS MS-DOS 3.2 We want to help you compete. That's why we have licensed MS-DOS 3.2 and GW Basic 3.2 and made them available in OEM packages at OEM prices.

Even with all these features, the ET-286 plus is available in OEM quantities for under $1,000. For more information, call or write:

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Carrollton, Texas 75006

214-247-5151
TELEX: 709748 ACS UD

ACS-1000
- 8 Or 4.77 MHz
- Up to 1 Meg Memory
- 2 Serial Ports
- 1 Parallel Port
- On Board Disk Controller
- On-Board Clock/ Calendar

ET-286 *plus*
- 10/6 & 12.5MHz
- Up to 4 Meg Memory
- 3 Serial Ports
- 2 Parallel Ports
- 8 Expansion Slots
- 5 MHz DMA
- On-Board Clock/ Calendar

NOW AVAILABLE:
- Optional 10 MHz Co-processor
- ACS MS-DOS 3.2
- GW Basic 3.2

A HERITAGE OF EXCELLENCE In any marketplace one product stands out as the pinnacle of performance and value. In the PC/XT marketplace, that product is the ACS-1000: 4.77 or 8 MHz operation, 1 Megabyte memory, built in communications, built in floppy disk controllers, even a SASI interface—all packaged on a single board and priced competitively with the merely compatible.

Building on the heritage of the ACS-1000, the ET-286 plus brings the same standards of excellence to the AT marketplace.

ACS

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CIRCLE NO. 104 ON READER SERVICE CARD

ALLEN-BRADLEY
Communications Division

☐ Model 7300
Functions: LAN connection ☐ IBM PC, XT, AT and compatibles ☐ Software supplied

ALLOY COMPUTER PRODUCTS, INC.
SEE AD ON PAGE 129

☐ Bi-TURBO
Functions: 640 kbytes RAM memory ☐ 1 serial port(s) ☐ 8 MHz NEC V20 Coprocessor ☐ IBM PC, XT, AT and compatibles ☐ Introduced: 1986 ☐ Cost: $995

☐ FTFA
Functions: Controller for Cartridge tape ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Cost: $195

☐ HDBA-PC
Functions: Controller for Hard disk ☐ IBM PC, XT, AT ☐ Cost: $395

☐ HDFA
Functions: Controller for Hard disk ☐ IBM PC ☐ Full length ☐ Cost: $795

☐ IDS-PC
Functions: Controller for Cartridge tape ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Cost: $595

☐ IDXS-PC
Functions: Controller for Hard disk ☐ IBM PC, XT, AT ☐ Full length ☐ Cost: $795

☐ ITS-PC
Functions: Controller for Cartridge tape ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Cost: $1,295

☐ PC-QT2
Functions: Controller for Cartridge tape ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Cost: $395

☐ PC-Slave/16
Functions: 512-1024 kbytes RAM memory ☐ 2 serial port(s) ☐ Controller for Printer; Terminal ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Software supplied ☐ Full length ☐ Units sold: 8,000 since 1984 ☐ Cost: $995

☐ QXS-PC
Functions: Controller for Hard disk ☐ IBM PC, XT, AT ☐ Full length ☐ Cost: $595

ALPS ELECTRIC (USA), INC.
(subsidiary of Alps Electric Co., Ltd.)
SEE AD ON PAGE 169

☐ ImagEnhancer
Functions: Controller for Printer ☐ 512K Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $595

ALTEK CORP.

☐ AC 35 DATATAB
Functions: 2 serial port(s) ☐ Controller for Digitizers ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Units sold: 10 since 1985 ☐ Cost: $465

AMERICAN COMPUTER AND PERIPHERAL, INC.

☐ American 286 Motherboard
Functions: 512 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ 80286 Motherboard ☐ IBM PC ☐ Introduced: 1986

☐ Color Card
Functions: Resolution: 640x200; 16 color graphics ☐ IBM PC XT, AT ☐ Full length; 3/4 length ☐ Cost: $110

☐ Monochrome Card
Functions: Resolution: 720x350 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC XT, AT ☐ Full length ☐ Cost: $110

AMERICAN COMPUTER PRODUCTS, INC.

☐ PC-011
Functions: Resolution: 640/320x300; 4 color graphics ☐ IBM PC

☐ PC-012; PC-013
Functions: 300 bps modem ☐ IBM PC

☐ PC-014
Functions: 64-512 kbytes RAM memory ☐ IBM PC, XT and compatibles

☐ PC-014B
Functions: 64-512 kbytes RAM memory ☐ 1 serial port(s) ☐ IBM PC, XT and compatibles

☐ PC-015
Functions: 1 parallel port(s) ☐ IBM PC, XT and compatibles

☐ PC-016B
Functions: 64 kbytes RAM memory ☐ Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC

☐ PC-017B; PC-017
Functions: 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT, Portable

☐ PC-018
Functions: 64-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT and compatibles

☐ PC-018C
Functions: 64-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT and compatibles

☐ PC-018D
Functions: 64-384 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT and compatibles

☐ PC-021
Functions: 64-256 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT and compatibles

☐ PC-022
Functions: Controller for Floppy disk ☐ IBM PC

☐ PC-028
Functions: Controller for Hard disk ☐ IBM PC

☐ PC-030B
Functions: Resolution: 640/320x200; 4 color graphics ☐ 1 parallel port(s) ☐ IBM PC

☐ PC-031; PC-040
Functions: 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT and compatibles

☐ PC-033
Functions: 64-384 kbytes RAM memory ☐ IBM PC, XT and compatibles

☐ PC-037
Functions: 1 serial port(s) ☐ Clock/calendar ☐ IBM PC

☐ PC-042
Functions: 300-1,200 bps modem ☐ IBM PC

☐ PC-046
Functions: 2 serial port(s); 1 parallel port(s) ☐ Controller for Floppy disk ☐ Clock/calendar ☐ IBM PC, XT and compatibles

☐ PC-048; PC-019
Functions: A/D and/or D/A conversion ☐ IBM PC

☐ PC-054
Functions: 64-384 kbytes RAM memory ☐ 1 parallel port(s) ☐ IBM PC, XT and compatibles

☐ PC-059
Functions: 2 serial port(s) ☐ Asynchronous protocol supported ☐ IBM PC, XT and compatibles

☐ PC-065
Functions: 64-512 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT and compatibles

AMERICAN MITAC CORP.

☐ MBC-CRTA-1
Functions: Resolution: 640/320x200 ☐ 1 parallel port(s) ☐ IBM PC XT ☐ Full length

☐ MBC-CRTA-3
Functions: Resolution: 720x348 monochrome graphics ☐ IBM PC XT ☐ Full length

☐ MBC-ESCA
Functions: 64-512 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC XT ☐ Full length

☐ MBC-Floppy
Functions: Controller for Floppy disk ☐ IBM PC XT ☐ Full length

☐ MBC-TPC
Functions: Controller for Cartridge tape ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $250

☐ MBI-MFB-30
Functions: 256-3072 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC AT and compatibles ☐ Full length ☐ Cost: $350

☐ MEGA
Functions: 256 kbytes RAM memory ☐ Resolution: 640x350 monochrome graphics ☐ 1 parallel port(s) ☐ Controller for Terminal ☐ Light pen interface ☐ IBM PC ☐ Full length ☐ Introduced: 1986 ☐ Cost: $310

AMERICAN SYSTEM PRODUCTS

☐ ASP/PC286
Functions: 256-1024 kbytes RAM memory ☐ 4 serial port(s) ☐ 80286 Coprocessor ☐ IBM PC, XT ☐ Full length ☐ Introduced: 1985

AMI (AMERICAN MICRONICS, INC.)

☐ AMI-EGA
Functions: Resolution: 720/640x350; 64 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Cost: $495

☐ Elephant
Functions: 3072-5120 kbytes RAM memory ☐ IBM PC AT and compatibles ☐ Full length ☐ Cost: $495-$1,795

☐ I/O Card
Functions: 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Half length ☐ Introduced: 1984 ☐ Cost: $129

☐ MIC Multi-Function Card
Functions: 64-256 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $495

☐ Multi-User 4/8 Board
Functions: 8 serial port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $375-$575

☐ Smart Pack
Functions: 128-3500 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC AT ☐ Cost: $455-$495

AMPAK BUSINESS SYSTEMS, INC.

☐ PC-Mini Adapter Card
Functions: IBM 5251 Model II terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied

ANALOG DEVICES, INC.

☐ MAC-4000
Functions: 1 serial port(s); A/D and/or D/A conversion ☐ IBM PC ☐ Software supplied (included in price) ☐ Units sold: 5,000 since 1981 ☐ Cost: $1,350

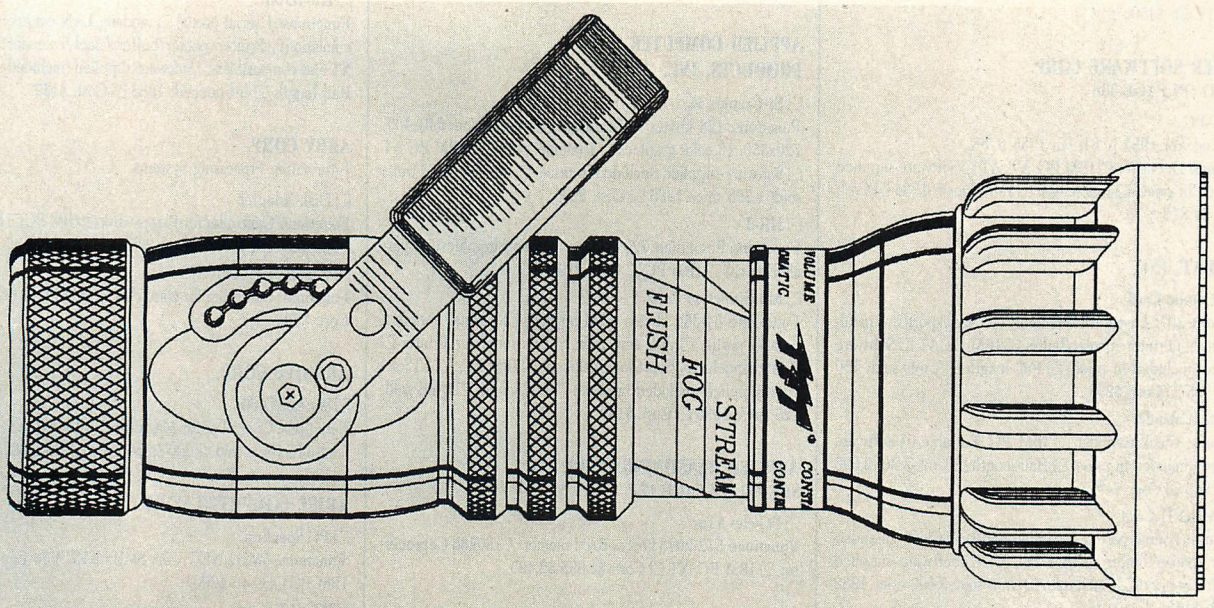
☐ RTI-800
Functions: A/D and/or D/A conversion ☐ Clock/calendar ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $850

☐ RTI-802
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $695

☐ RTI-815
Functions: A/D and/or D/A conversion ☐ Clock/calendar ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $1,095

☐ RTI-817
Functions: 3 parallel port(s); A/D and/or D/A conversion ☐ IBM PC, XT, AT ☐ Half length ☐ Introduced: 1986 ☐ Cost: $295

INTRODUCING PLOT MATRIX PRINTING.



This high-resolution design was produced with the ImagEnhancer PC add-on board and an ordinary dot matrix printer. And so was the text you're reading.

Image drawn with AutoCAD by Autodesk, Inc.

Now you don't need a slow, expensive plotter to get output this good.

You need the new ImagEnhancer™ PC add-on board. It enables ordinary monochrome or color dot matrix printers to produce high-resolution plotter-like graphics.

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The ImagEnhancer is the easiest way to plot drafts, presentation-quality designs, flow charts and report graphics.

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And of course, the ImagEnhancer works with the same computer products most everyone works with. IBM® PCs, XTs, ATs or 100% compatibles with graphics capability. And Houston Instrument (DM/PL) plotter-compatible software, including AutoCAD™ and VersaCAD,™ among others.

AND THE PRICE IS RIGHT.

At $595, the ImagEnhancer costs a fraction of what you'd pay for a new plotter. And it's backed by a one-year warranty.

For more information, print samples or the name of the dealer/distributor nearest you, write to Alps America, 3553 North First Street, San Jose, CA 95134. Or call **(800)828-ALPS.** In California, (800) 257-7872.

And turn your dot matrix printer into a plot matrix printer.

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ANALOG TECHNOLOGY CORP.

☐ Model 5000
Functions: Controller for Printer ☐ IBM PC and compatibles

ANDERSON JACOBSON, INC.

☐ AJ Connection II
Functions: 0-300; 1,200; 2,400 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Units sold: 200 since 1986 ☐ Cost: $650

ANEX TECHNOLOGY, INC.

☐ MULTI-RAM
Functions: 256-4096 kbytes RAM memory ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1984 ☐ Cost: $450

ANSWER SOFTWARE CORP.

SEE AD ON PAGE 336

☐ PDT-PC
Reviewed Apr 1985 p. 81; Jan 1985 p. 88.
Functions: Debugger ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,500-$1,875

APPARAT, INC.

☐ AT Combo Card
Functions: 3072 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 500 since 1985 ☐ Cost: $299

☐ Clock/Calendar
Functions: Clock/calendar ☐ IBM PC, Portable ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 2,600 since 1982 ☐ Cost: $49

☐ COMBO II Card
Functions: 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar; Printer spooler/buffer ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 3,600 since 1982 ☐ Cost: $149

☐ CRAMBO Piggyback
Functions: 64-512 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Clock/calendar; Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,800 since 1983 ☐ Cost: $278-$370

☐ Internal SPOOL/64
Functions: 64 kbytes RAM memory ☐ 1 parallel port(s) ☐ 64K Printer spooler/buffer ☐ IBM PC ☐ Software supplied ☐ Full length ☐ Units sold: 100 since 1982 ☐ Cost: $167

☐ Limbo
Functions: 64-2048 kbytes RAM memory ☐ Clock/calendar ☐ IBM PC ☐ Introduced: 1986 ☐ Cost: $199-$549

☐ Limbo II
Functions: 256-1024 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC ☐ Introduced: 1986 ☐ Cost: $299-$429

☐ Short Slot Parallel/Serial
Functions: 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer ☐ IBM PC, XT, AT, Portable ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 300 since 1984 ☐ Cost: $99

☐ 128K RAM Card
Functions: 128-384 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM Portable ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 300 since 1984 ☐ Cost: $99

☐ 256K Expansion Portable PC
Functions: 256 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM Portable ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 100 since 1984 ☐ Cost: $119

☐ 256K RAM Card
Functions: 64-256 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ 3/4 length ☐ Units sold: 15,000 since 1982 ☐ Cost: $99-$136

☐ 384 RAM/Clock Card
Functions: 384 kbytes RAM memory ☐ disk emulation ☐ Clock/calendar; Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,500 since 1985 ☐ Cost: $139-$208

☐ 512K RAM Card
Functions: 64-512 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 16,800 since 1983 ☐ Cost: $129-$221

APPLIED BUSINESS COMPUTER CO.

☐ AI-1512
Functions: 64-512 kbytes RAM memory ☐ IBM PC ☐ Cost: $250

APPLIED COMPUTER PRODUCTS, INC.

☐ Bi-Graphix II
Functions: 128 kbytes RAM memory ☐ Resolution: 640x400; 720x350; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,298 since 1985 ☐ Cost: $295

☐ HR-2
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC ☐ Cost: $199

☐ Multifunction Card
Functions: 64-384 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Controller for Printer ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 125 since 1985 ☐ Cost: $199

APPLIED REASONING CORP.

SEE AD ON PAGE 171

☐ PC-elevATor
Functions: 512-2048 kbytes RAM memory ☐ 80286 Coprocessor ☐ IBM PC, XT ☐ Cost: $1,695-$2,495

APSTEK

☐ HANDI-Color
Functions: Resolution: 320/640x200; 16 color graphics ☐ IBM PC, XT and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $199

☐ HANDI-1
Functions: 0-256 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ modem; LAN connection ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $75

☐ HANDI-1 PLUS
Functions: 0-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ modem; LAN connection ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $199

APPLIED REASONING CORPORATION
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Cambridge, MA 02140
(617) 492-0700

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World's Fastest Accelerator Board transforms any PC into an advanced technology computer. Fast 80286 models (8, 10 or 12.5 MHz) with 1 to 2 MB RAM, optional 287 coprocessor (5, 8 or 10 MHz). And NO Wait states.

NEW! 80286 model with up to 16 MB RAM.

☐ HANDI-2
Functions: 0-256 kbytes RAM memory ☐ modem; LAN connection ☐ disk emulation ☐ Clock/calendar; Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1982 ☐ Cost: $79

☐ HANDI-2 PLUS
Functions: 0-384 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $165

☐ HANDI-3
Functions: 1 parallel port(s) ☐ disk emulation ☐ Controller for Printer ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1983 ☐ Cost: $129

☐ HANDI-4
Functions: 1 serial port(s) ☐ modem; LAN connection ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1983 ☐ Cost: $139

ARBY CORP.

Information Processing Systems

☐ Disk Adapter
Functions: Controller for Floppy disk ☐ IBM PC ☐ Half length ☐ Introduced: 1983 ☐ Cost: $95

☐ Winchester Controller
Functions: Controller for Hard disk ☐ IBM PC ☐ Full length ☐ Cost: $395

ARCHIVE CORP.

☐ Series SC400
Functions: Controller for Mag tape ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 7,000 since 1984 ☐ Cost: $275

ARIEL COMPUTER CORP.

☐ PC Speedup
Functions: 5MHz NEC V20; 8MHz NEC V30 Coprocessor ☐ IBM PC ☐ Cost: $200

☐ XCELX
Functions: Five frequency, switch selectable accelerator card ☐ IBM PC AT ☐ Cost: $90

ARIEL CORP.

☐ RTA-331
Functions: Process control ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $650

ARNET CORP.

☐ Multi-4
Functions: 4 serial port(s) ☐ EasyLAN LAN connection ☐ Clock/calendar; Anti-piracy board ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $495

☐ Multi-8
Functions: 8 serial port(s) ☐ EasyLAN LAN connection ☐ Clock/calendar; Anti-piracy board ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $735

☐ TwinPort
Functions: 2 serial port(s); 1 parallel port(s) ☐ EasyLAN LAN connection ☐ Clock/calendar; Anti-piracy board ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $250

ARTIC TECHNOLOGIES

☐ SynPhonix 200/PT
Functions: Voice I/O or synthesis ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $255

☐ SynPhonix 200/ST
Functions: Voice I/O or synthesis ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $225

THE SPEED. THE POWER. THE PERFORMANCE.

Introducing PC-ELEVATOR 386

The only 386 accelerator board that works in a PC, XT and AT.

Now from Applied Reasoning Corporation, the acknowledged leader in accelerator board technology. PC-ELEVATOR 386. The most advanced accelerator board in the world. At a price you can afford. $1995 with 1 megabyte of fast RAM on board.

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- **Intel 80386 32-bit processor**
- **16 MHz clockspeed**
- **Full 32-bit memory bus**
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- **RAM expandable to 16 megabytes**
- **Optional 80287/80387 coprocessor**

Upgrade your AT or compatible to a 32-bit 80386 powerhouse. PC-ELEVATOR 386 is easy to install. You don't pull the 80286 processor or insert a cable. Simply drop the board in a slot. And move up to a new level of performance. Up to 4 times faster than your AT.

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PC-ELEVATOR 386 is fully compatible with EGA and other graphics cards, and with applications written for EMS and EEMS boards. It comes with 1 megabyte of interleaved memory on board. Expandable with daughtercards to 16 megabytes. Supports an 80287 or 80387 coprocessor.

Our new 386 product is a worthy addition to the PC-ELEVATOR family. With 8, 10 and 12.5 MHz 80286 accelerator boards. And now the 16 MHz PC-ELEVATOR 386. The most complete upgrade path in the business.

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AST-5251/12. Total solution for remote PC communications with an IBM System 34/36/38 computer.

AST-5250/Cluster (Local and Remote). Complete communication solutions allowing up to five IBM PC/XT/ATs or compatibles in Local or Remote environments to communicate via a single Twinax cable (Local) or SNA/SDLC (Remote) link with an IBM System 34/36/38.

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AST-5250/Gateway (Local and Remote). Direct Twinax or SNA/SDLC link to an IBM System 34/36/38 that connects to a LAN to distribute 5250 Terminal/Printer emulation to LAN nodes.

Micro-to-Mainframe Data Communications Products

AST-3770. Hardware/software solution allowing a PC to communicate as a 3770 RJE workstation in SNA/SDLC environment.

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AST-3270/COAX. Hardware/software package allowing a PC to emulate a 3278/3279 terminal and concurrently display PC DOS and user notepads with coaxial cable to a 3274/76 controller.

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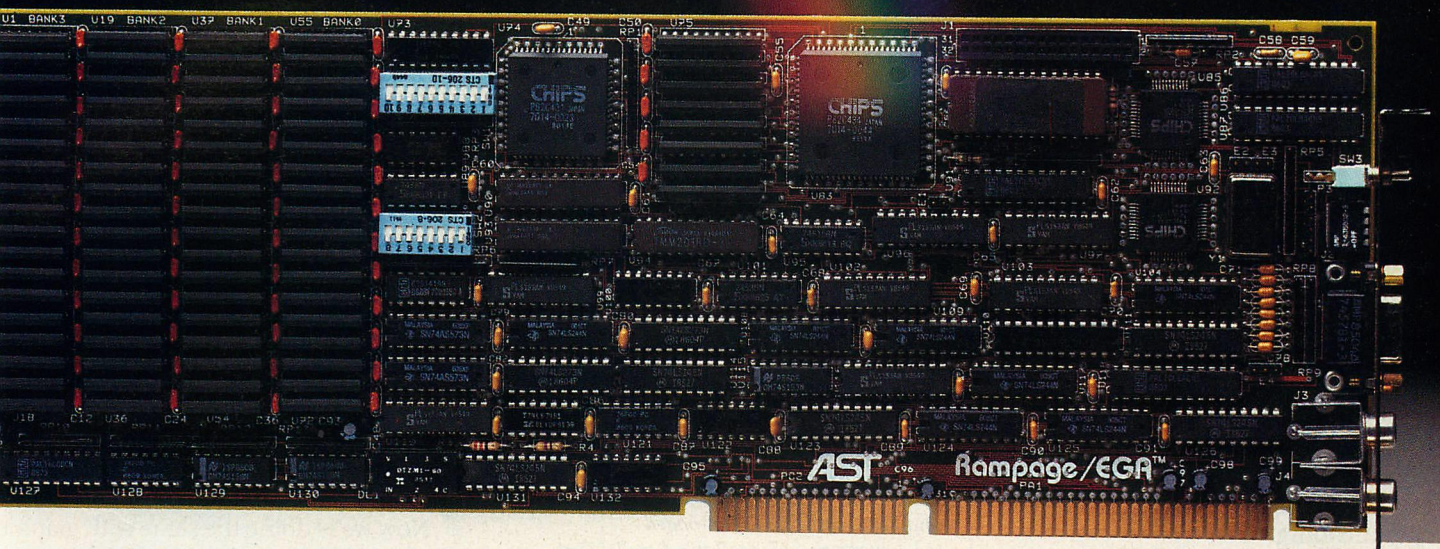
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EGA Goes On A Rampage!®



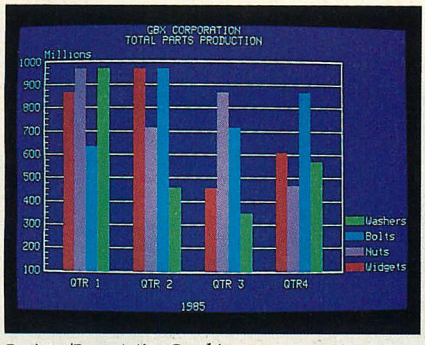
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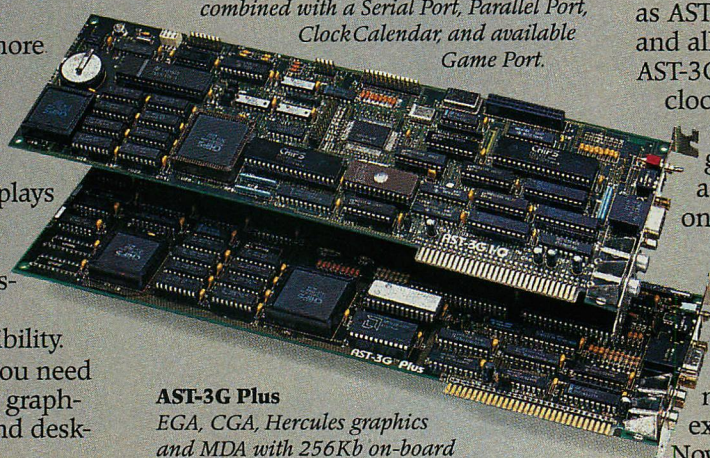
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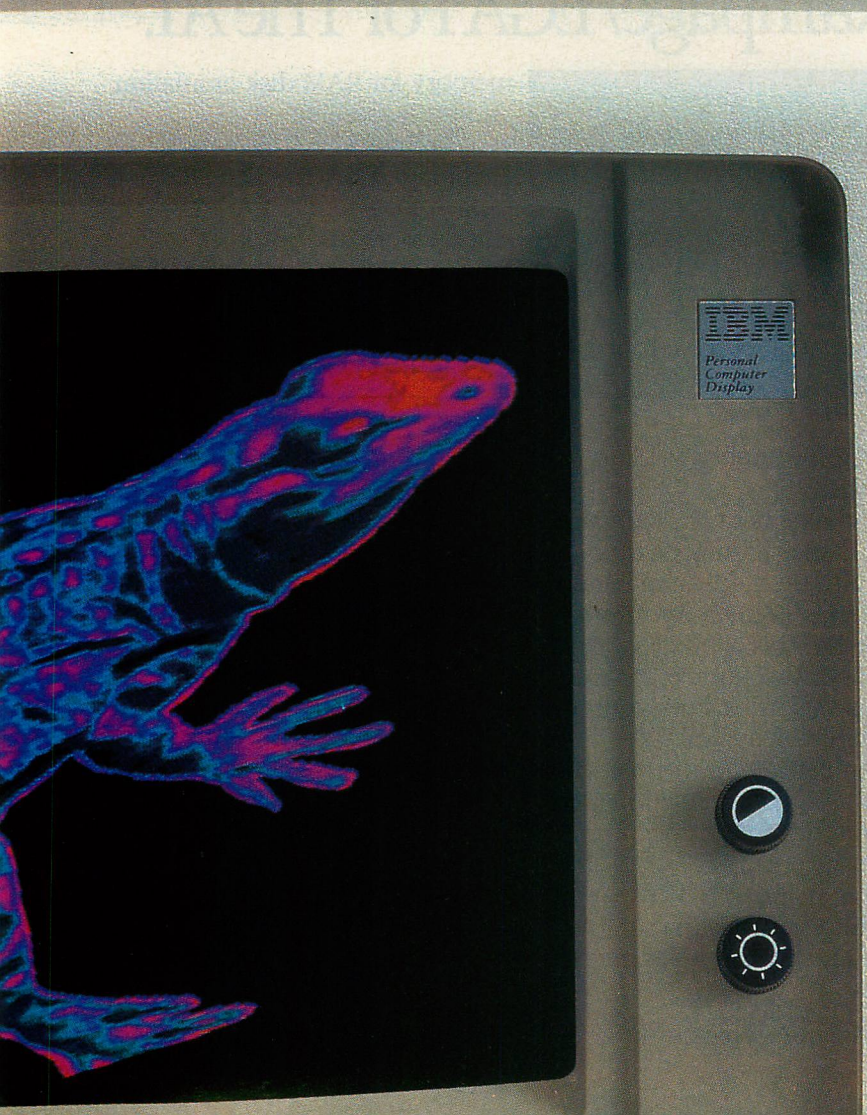
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You'll Work Faster. Advantage Premium's flexible DESQview operating environment lets you organize up to nine of your current and new expanded applications in memory for faster, easier access.

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ASHER TECHNOLOGIES, INC.

☐ **ASHER**
Functions: 128 kbytes EPROM memory ☐ 16 color graphics ☐ 300-2,400 bps modem ☐ Voice I/O or synthesis ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 4,000 since 1984 ☐ Cost: $695

AST RESEARCH, INC.
SEE AD ON PAGES 161/172/173/174/175

☐ **Advantage**
Reviewed Jun 1985 p. 23.
Functions: 128-3072 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $595-$1,945

☐ **AST Resource Sharing Network**
Functions: AST Resource Sharing Network LAN connection ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $495

☐ **AST-BSC**
Functions: 1 serial port(s) ☐ Synchronous mainframe link ☐ 3274/76, 3278, 3279, 3287 terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $695

☐ **AST-BSC/Cluster**
Functions: 5 serial port(s) ☐ Synchronous mainframe link ☐ 3274, 3276, 3278-2, 3279, 3287 terminal/protocol emulation ☐ IBM PC, XT, AT, Portable and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,095

☐ **AST-FourPort/XN**
Functions: 4 serial port(s) ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Introduced: 1985 ☐ Cost: $495

☐ **AST-PCnet II**
Functions: AST-PCnet II LAN connection ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,090 (includes 2 board starter kit)

☐ **AST-PCOX**
Functions: IBM 3278/3279 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1983 ☐ Cost: $995

☐ **AST-SNA**
Functions: 1 serial port(s) ☐ Synchronous mainframe link ☐ 3274/3276, 3278/2, 3279/2A, 3287 terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC, XT, AT, Portable and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $895

☐ **AST-SNA/BSC Gateway**
Functions: 1 serial port(s) ☐ Synchronous mainframe link ☐ 3274, 3276, 3278, 3279 terminal/protocol emulation ☐ IBM PC, XT, AT, Portable and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $895-$1,295

☐ **AST-SNA/Cluster**
Functions: 5 serial port(s) ☐ 3274, 3276, 3278-2, 3279-2A, 3287 terminal/protocol emulation ☐ IBM PC, XT, AT, Portable and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,295

☐ **AST-3G**
Functions: Resolution: 640x350; 720x348; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $425-$600

☐ **AST-3G Models 1**
Functions: 64-256 kbytes RAM memory ☐ Resolution: 640x350; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $450-$575

☐ **AST-3G Pak**
Functions: Resolution: 640x350/200; 720x348; 16 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $575-$700

☐ **AST-3780**
Functions: 1 serial port(s) ☐ Synchronous mainframe link ☐ 2770, 2780, 3780, 3741, 3780 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $895

☐ **AST-5250/Display**
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ 5251 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $495

☐ **AST-5250/Display-C**
Functions: Resolution: 640/320x200; 4; 8; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $395

☐ **AST-5251/11**
Reviewed Jul 1986 p. 76.
Functions: Synchronous mainframe link ☐ 5251, 5291, 5292/1, 5256, 5224, 5225 terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $895

☐ **AST-5251/12**
Functions: Synchronous mainframe link ☐ IBM 5251-12, 5256, 5224, 5225 terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $790

☐ **ColorGraphPlus**
Functions: Resolution: 320/640x200; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $295-$370

☐ **FlashPak**
Functions: 8086; V30 Coprocessor ☐ IBM PC, XT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $495

☐ **I/O Mini**
Functions: 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, Portable and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $185-$285

☐ **I/O Plus II**
Functions: 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Clock/calendar; Printer spooler/buffer ☐ IBM PC, XT, Portable, 3270 PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $185-$285

☐ **MegaPlus II**
Functions: 256-512 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, Portable, 3270 PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1982 ☐ Cost: $395-$990

☐ **PREVIEW**
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ RAM disk emulation ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $299

☐ **RAMpage AT**
Reviewed Feb 1986 p. 66.
Functions: 512-2048 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $795-$1,495

☐ **RAMpage**
Reviewed Feb 1986 p. 66.
Functions: 256-2048 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $395-$1,295

☐ **RAMvantage**
Functions: 128-3072 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $395-$1,545

☐ **Reach**
Reviewed Sep 1985 p. 60.
Functions: 1 serial port(s) ☐ 110; 300; 1,200 bps modem; Asynchronous protocol supported ☐ terminal/protocol emulation ☐ IBM PC, AT, XT, Portable and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $549

☐ **ShortPak**
Functions: 64-576 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC, XT, Portable, 3270 and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1986 ☐ Cost: $245-$495

☐ **SixPakPlus**
Reviewed Jan 1984 p. 66.
Functions: 64-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, Portable, 3270 PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $249-$445

☐ **SixPakPremium**
Functions: 512-2048 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC XT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $595-$1,395

ATI TECHNOLOGIES, INC.
SEE AD ON PAGES 177/179

☐ **Color/Emulator Adaptor**
Functions: Resolution: 320x200; 640x350; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT, Portable and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $239

☐ **Graphics Solution**
Functions: Resolution: 640x200/350; 720x348; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT, Portable and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $299

ATLANTIC COMPUTER PRODUCTS, INC.

☐ **All-In-One**
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Clock/calendar ☐ IBM PC, XT ☐ Software supplied

☐ **Color Graphic & Monochrome Display**
Functions: color graphics ☐ IBM PC ☐ Half length

☐ **Color Graphic Printer Card**
Functions: Resolution: 640/320x200; color graphics ☐ 1 parallel port(s) ☐ IBM PC ☐ Full length

☐ **Disk I/O**
Functions: 2 serial port(s); 1 parallel port(s); SASI/SCSI ☐ Printer spooler/buffer ☐ IBM PC ☐ Full length

☐ **Floppy Controller**
Functions: Controller for Floppy disk ☐ IBM PC

☐ **MF-3000**
Functions: 3072 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC AT ☐ Full length

ATI ARRAY TECHNOLOGIES
4590 Esna Park Drive, Unit 5
Markham, Ontario, Canada C3R 1H5

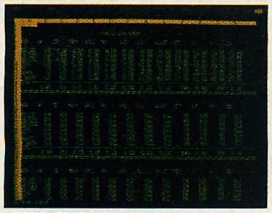
EGA WONDER
Video board that runs EGA, CGA, MDA, Hercules, and 132-column software on an EGA monitor, RGB monitor, TTL monochrome monitor, composite monitor, or the internal monitor of the IBM PC Portable. Automatically switches between EGA and CGA color modes or among MDA, Hercules, and EGA monochrome modes. IBM PC/XT/AT, PC Portable or compatible. Cost: $399.

Seal of Approval

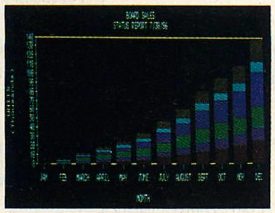
Lotus certifies ATI's Graphics Solution

ATI's **"Small Wonder" Graphics Solution** has never been slow to pick up compliments, particularly in the area of multi-mode flexibility. Much of the credit for this is due to ATI's use of advanced technology. Therefore it's not very surprising that Lotus – the world's leader in software – has certified the "Graphics Solution" for 132 x 44 monochrome spreadsheets and 640 x 200 7 color graphics so you can see more spreadsheet and sharper, more colorful graphs on 1-2-3 (2.0) and Symphony (1.1).

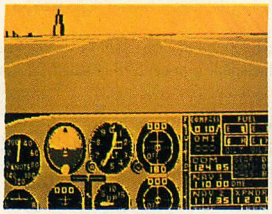
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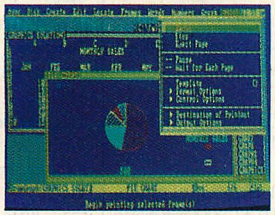
LOTUS CERTIFIED 132 x 44
MONOCHROME SPREADSHEETS



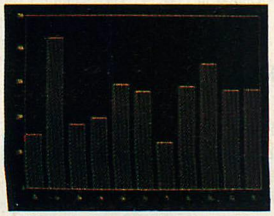
LOTUS CERTIFIED 640 x 200
HIGH RESOLUTION COLOR/GRAPHICS



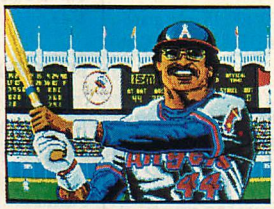
COLOR SOFTWARE ON
MONOCHROME MONITOR IN 16 SHADES



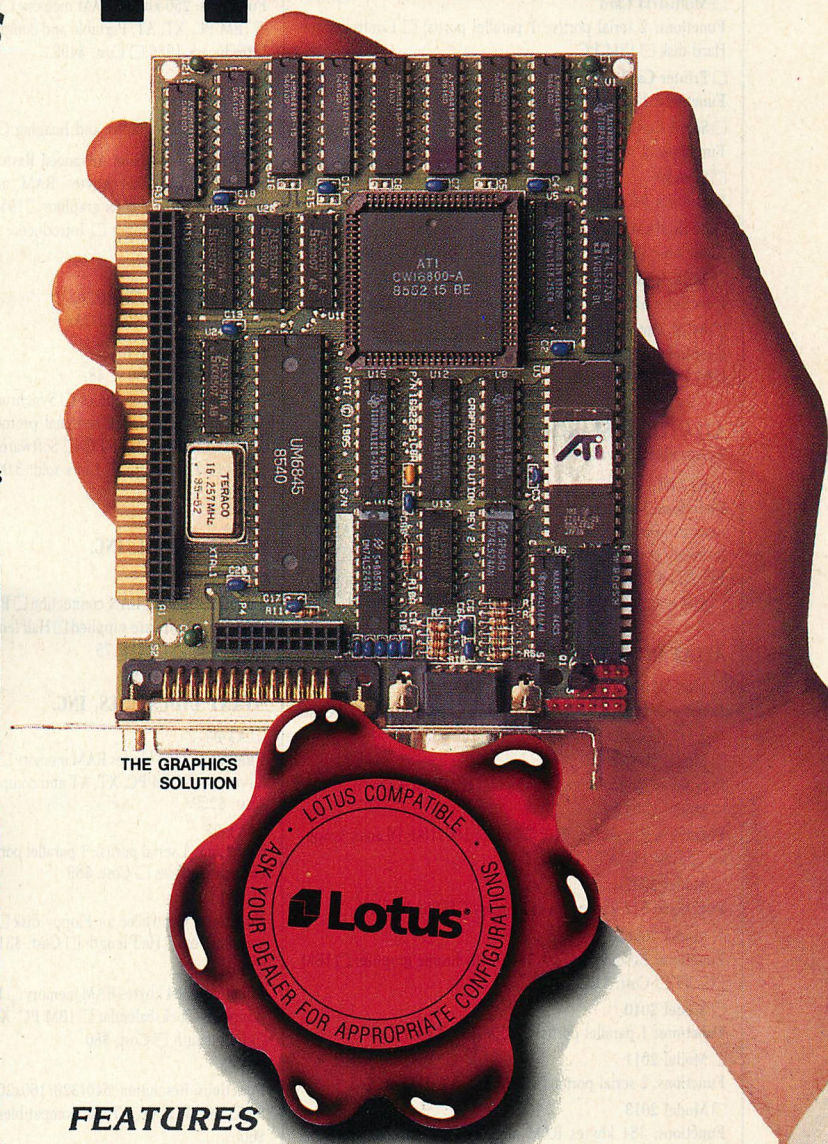
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4 COLORS, 640 x 200 ON DESKTOP
16 COLORS, 640 x 200 GRAPHICS



HERCULES COMPATIBLE
MONOCHROME GRAPHICS



PLANTRONICS COMPATIBLE
HIGH RESOLUTION 16 COLORS



FEATURES

- **Hercules Compatible Monochrome Graphics**
- **Runs Color/Graphics Software on Monochrome Monitor in 16 Shades Without Pre-Boot Drivers**
- **High Resolution Color/Graphics — 320 x 200 16 Colors**
  — 640 x 200 4 Colors
  — 640 x 200 16 Colors
- **IBM Compatible Color/Graphics**
- **132 Columns in Either Color or Monochrome**
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- **Drivers for 640 x 200 High Resolution 16 Colors on Framework II**
- **Parallel Port and Serial Port Optional**
- **2 Year Warranty**
- **$299 Suggested Retail**

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CIRCLE NO. 206 ON READER SERVICE CARD

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The Graphics Solution has successfully passed compatibility testing with 1-2-3 (2.0) and Symphony (1.1) on an IBM PC-XT with PC-DOS 3.1. The Graphics Solution must be installed.

☐ Mono/Graphics/Printer Card
Functions: 64 kbytes RAM memory ☐ Resolution: 720x348; color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT

☐ Multi-I/O Card
Functions: 2 serial port(s); 1 parallel port(s) ☐ Controller for Hard disk ☐ IBM PC

☐ Printer Card
Functions: 1 parallel port(s) ☐ IBM PC ☐ Half length

☐ Serial Card
Functions: 2 serial port(s) ☐ IBM PC

☐ Speedy
Functions: 640 kbytes RAM memory ☐ IBM PC, XT

☐ 384K RAM Card
Functions: 384 kbytes RAM memory ☐ IBM PC ☐ Full length

☐ 512K RAM Card
Functions: 512 kbytes RAM memory ☐ IBM PC ☐ Full length

☐ 640K Motherboard
Functions: 640 kbytes RAM memory ☐ 8088 motherboard ☐ IBM PC ☐ Half length

ATLANTIC RESEARCH CORP.
Teleproducts Division

☐ XPERT
Functions: 3 serial port(s) ☐ modem; LAN connection; Synchronous mainframe link ☐ 3270, 3780, VT-100, VT-52, ADM-3 terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC, XT, AT, 3270 PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 200 since 1985 ☐ Cost: $1,785

ATLAZ INTERNATIONAL, LTD.

☐ Model 2001
Functions: Controller for Floppy disk ☐ IBM PC, XT ☐ Cost: $65

☐ Model 2003
Functions: monochrome graphics ☐ IBM PC, XT

☐ Model 2005
Functions: Resolution: 640/320x200; 160x100; 16 color graphics ☐ IBM PC, XT ☐ Cost: $109

☐ Model 2007
Functions: 512 kbytes RAM memory ☐ IBM PC, XT

☐ Model 2008B
Functions: Resolution: 720x384 monochrome graphics ☐ IBM PC, XT ☐ Cost: $137

☐ Model 2010
Functions: 1 parallel port(s) ☐ IBM PC, XT ☐ Cost: $35

☐ Model 2011
Functions: 2 serial port(s) ☐ IBM PC, XT ☐ Cost: $45

☐ Model 2013
Functions: 384 kbytes RAM memory ☐ 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT ☐ Cost: $137

ATRONICS INTERNATIONAL, INC.

☐ ATI-1000
Functions: 640-1024 kbytes RAM memory ☐ Clock/calendar; 80286 motherboard ☐ IBM PC, AT ☐ Cost: $1,095

ATTACHMATE
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NEED HELP with your micro-mainframe communications decisions?
See our ad under the heading Local Area Networks.

☐ ATI-2000
Functions: 640 kbytes RAM memory ☐ IBM PC

☐ MegaGraph
Functions: 256 kbytes RAM memory ☐ monochrome graphics ☐ IBM PC, XT, AT, Portable and compatibles ☐ 3/4 length ☐ Introduced: 1986 ☐ Cost: $499

AT&T
Electronic Photography and Imaging Center

☐ TARGA (Truevision Advanced Raster Graphics Adapter)
Functions: 256-1024 kbytes RAM memory ☐ Resolution: 512x482; 256-16M color graphics ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,595-$4,995

ATTACHMATE CORP.
SEE AD ON PAGES 23/255

☐ Attachmate-3-N-1
Reviewed Feb 1986 p. 48.
Functions: 8 color graphics ☐ Synchronous mainframe link ☐ IBM 3278/79 SNA, BSC terminal/protocol emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 3,000 since 1984 ☐ Cost: $1,195

AUTOCONTROL, INC.

☐ AC Soft/Net
Functions: DRnet LAN connection ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied ☐ Half length ☐ Units sold: 5,000 since 1984 ☐ Cost: $175

AVANT INDUSTRIES, INC.

☐ AT-03
Functions: 2558 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $229

☐ AT-05
Functions: 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Cost: $89

☐ I-01
Functions: Controller for Floppy disk ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Cost: $31

☐ I-02A
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $80

☐ I-05
Functions: Resolution: 640/320/160x200/100; 16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $60

☐ I-06
Functions: 1 serial port(s) ☐ Controller for Floppy disk ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $88

☐ I-07
Functions: 0-512 kbytes RAM memory ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $45

☐ I-08B
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Cost: $80

☐ I-10
Functions: 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Cost: $20

☐ I-17
Functions: 2 serial port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $65

☐ I-18
Functions: 300; 1,200 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $170

AVATAR TECHNOLOGIES, INC.

☐ Pro-87
Functions: IBM 3287 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Introduced: 1986 ☐ Cost: $695

BARR SYSTEMS, INC.

☐ BARR/HASP
Functions: 128 kbytes RAM memory ☐ 1 serial port(s) ☐ Synchronous mainframe link ☐ IBM 3777-2 HASP, 360/20 terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 2,500 since 1983 ☐ Cost: $890

BELL & HOWELL CO.
Quintar Division

☐ Graphport
Functions: Resolution: 832x630; 640x480; 16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Cost: $1,795

BELL TECHNOLOGIES

☐ RAM2
Functions: 2048 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC AT ☐ Cost: $745

BIT 3 COMPUTER CORP.

☐ Model 401
Functions: 8-32 kbytes RAM memory ☐ IEEE-796 interface ☐ IBM PC, XT ☐ Half length ☐ Introduced: 1983 ☐ Cost: $995

☐ Model 402
Functions: 8-32 kbytes RAM memory ☐ IEEE-796 interface ☐ IBM PC, AT ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,175

☐ VME Adaptor
Functions: 32-128 kbytes RAM memory ☐ VMEbus interface ☐ IBM PC AT ☐ Introduced: 1986 ☐ Cost: $1,280

BIZCOMP CORP.

☐ IntelliModem PC
Functions: 110; 300; 1,200 bps modem ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $499

☐ IntelliModem ST
Functions: 110; 300; 1,200 bps modem ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $499

☐ IntelliModem XL
Functions: 110; 300; 1,200 bps modem ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $549

☐ IntelliModem XT
Functions: 110; 300; 1,200 bps modem ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Half length ☐ Cost: $549

BLACK BOX CORP.

☐ DAQ-1
Functions: A/D and/or D/A conversion ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $644

☐ DAQ-16
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $1,229

☐ IBM PC/3270
Functions: IBM 3278, 3279 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $895

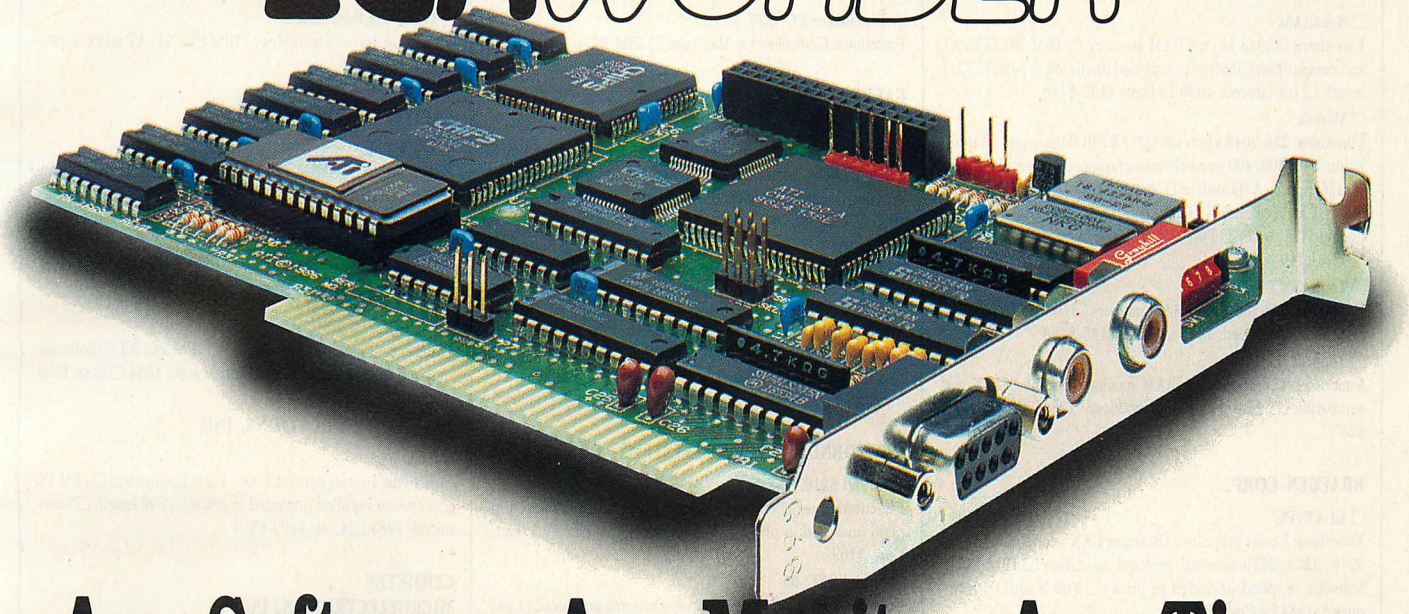
☐ Modem 1200
Functions: 300; 1,200 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Cost: $395

☐ Modem 2400
Functions: 300; 1,200; 2,400 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Cost: $595

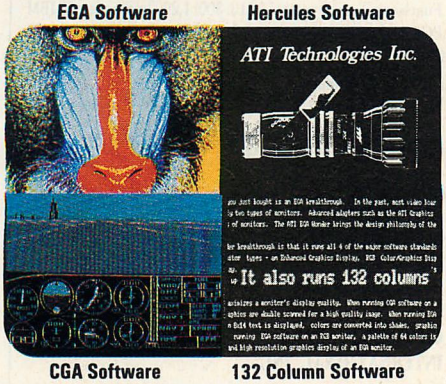
BNW, INC.

☐ Precision Models 15/12
Functions: 512-2000 kbytes RAM memory ☐ Resolution: 1024x1024; 1024x768; 16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,500 since 1984 ☐ Cost: $1,595-$3,295

EGAWONDER™



Any Software. Any Monitor. Any Time.



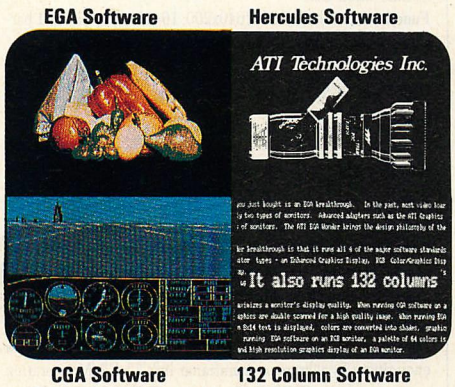
EGA Monitor

EGA Wonder runs EGA, CGA, MDA, Hercules and 132 Columns on an Enhanced Graphics Display. CGA text is improved to 8 ×14 and graphics are double scanned for a high quality display.



TTL Monochrome Monitor

EGA Wonder runs EGA, CGA, MDA, Hercules and 132 Columns on a TTL Monochrome Monitor. Colors of EGA and CGA are converted into shades, graphics are full screen and no pre-boot drivers are required.



RGB, *Composite Monitors, and the IBM Portable P.C.

EGA Wonder also runs EGA, CGA, MDA, Hercules and 132 Columns on an RGB Monitor, *Composite Monitor, and the IBM Portable P.C. in 64 colors (shades). EGA and Hercules software are interlaced for high resolution text and graphics.

*Composite Monitor and PC Portable display not shown

Features	ATI EGA Wonder	Paradise Auto Switch	Quadram and Video 7
Compatible to EGA, CGA, MDA, Hercules	✔	✔	✔
256K Video Memory	✔	✔	✔
Automatic Switching Between EGA and CGA Color Modes and Among EGA, MDA, and Hercules Modes	✔	✔	
Runs EGA, CGA, MDA, Hercules and 132 Columns on an EGA Monitor	✔		
Runs EGA, CGA, MDA, Hercules and 132 Columns on an RGB Color Monitor	✔		
Runs EGA, CGA, MDA, Hercules and 132 Columns on a TTL Monochrome Monitor	✔		
Runs EGA, CGA, MDA, Hercules and 132 Columns on a Composite Monitor	✔		
Runs EGA, CGA, MDA, Hercules and 132 Columns on an IBM Portable P.C.	✔		
Warranty	2 Yrs	1 Yr	1 Yr
Suggested List Price	$399	$595	$599

EGA – Enhanced Graphics Adapter MDA – Monochrome Display Adapter
CGA – Color Graphics Adapter

*Trademarks: Paradise, Auto Switch – Paradise Systems Inc; Quad EGA+ is a trademark of Quadram Corp.; Video-7-Video-7, Incorporated; IBM PC Portable – IBM – International Business Machines.

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Only the **ATI EGA Wonder** displays EGA, CGA, MDA, Hercules and 132 column software on an Enhanced Graphics Monitor, an RGB Color/Graphics Monitor, a TTL Monochrome Monitor, a Composite Monitor, or the internal monitor of the PC Portable.

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Technology you can Trust.

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CIRCLE NO. 269 ON READERS SERVICE CARD

BOCA RESEARCH, INC.

☐ BocaRAM
Functions: 0-2048 kbytes RAM memory ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ 3/4 length ☐ Introduced: 1986 ☐ Cost: $195-$740

☐ Memek
Functions: 256-2048 kbytes RAM; EEPROM memory ☐ Resolution: 640x200/400 monochrome graphics ☐ 1 serial port(s); 1 parallel port(s); A/D and/or D/A conversion ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1986 ☐ Cost: $645-$1,140

☐ TophAT
Functions: 128-384 kbytes RAM memory ☐ IBM PC AT ☐ Half length ☐ Introduced: 1986 ☐ Cost: $145-$195

☐ TophAT/12
Functions: 128-384 kbytes RAM memory ☐ IBM PC AT and compatibles ☐ Half length ☐ Introduced: 1986 ☐ Cost: $175-$235

BRAEGEN CORP.

☐ ELAN/PC
Functions: 7 color graphics ☐ Braegen LAN connection ☐ IBM 3270, 3278, 3279 terminal/protocol emulation ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $995

BRONSON ELECTRONICS CORP.
(division of Kurz & Root Corp.)

☐ Innovation CGP
Functions: Resolution: 320/640x200; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, Portable and compatibles

☐ Model 1008
Functions: 64-512 kbytes RAM memory ☐ IBM PC XT and compatibles

BYAD, INC.

☐ Byway 100
Functions: 64 kbytes RAM memory ☐ 1 serial port(s) ☐ Asynchronous protocol supported ☐ Z80 Coprocessor; Data Exchange Software ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $850

☐ Byway 200
Functions: 64 kbytes RAM memory ☐ 2 serial port(s) ☐ Data encryption; Synchronous mainframe link ☐ CP/M operating system emulation ☐ Z80B Coprocessor ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 100 since 1984 ☐ Cost: $1,100

☐ DS2
Functions: 64 kbytes RAM memory ☐ 1 serial port(s) ☐ CP/M operating system emulation ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 250 since 1983 ☐ Cost: $575

HAUPPAUGE COMPUTER WORKS, INC.
358 Veterans Memorial Highway,
Suite MSI
Commack, NY 11725
516-360-3827

87 Chip, 87-2 Chip are math coprocessors for the IBM PC, PC/XT and 8MHz XT compatibles. These chips come carrier mounted for easy installation, and include a diagnostic diskette to verify proper installation. Also included is a demo diskette with several math coprocessor programs.

CACHE SYSTEMS, INC.

☐ Tapemaker PC/Q36
Functions: Controller for Mag tape ☐ IBM PC

CAERE CORP.

☐ PCSCAN-NET 941
Functions: 1 serial port(s) ☐ PCSCAN-NET LAN connection ☐ Printer spooler/buffer ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 20 since 1985 ☐ Cost: $1,789

CALIDAD ELECTRONICS, INC.

☐ AGI
Functions: Resolution: 640/320x200; 16 color graphics ☐ 1 serial port(s); 3 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 125 since 1985 ☐ Cost: $449

CALIFORNIA COMPUTER SYSTEMS

☐ Model 8210
Functions: 2 serial port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $169

☐ Model 8227-05
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ DEC VT; 3270 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 3,000 since 1984 ☐ Cost: $599

☐ Model 8229-01
Functions: Resolution: 640x200; 4 color graphics ☐ IBM PC XT, AT ☐ Full length ☐ Units sold: 6,000 since 1984 ☐ Cost: $199

☐ Model 8229-02
Functions: Resolution: 640x200; 4 color graphics ☐ IBM PC XT ☐ Full length ☐ Units sold: 12,000 since 1984 ☐ Cost: $245

☐ Z/Plus 8220
Functions: 64-192 kbytes RAM memory ☐ 1 serial port(s) ☐ CP/M operating system emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 470 since 1983 ☐ Cost: $645-$825

CALIFORNIA NETWORK SYSTEMS

☐ ComCard
Functions: 64-256 kbytes RAM memory ☐ 1 serial port(s) ☐ OEM/SNA Gateway; NetServer LAN connection ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles

CALMEX, INC.

☐ Floppy Controller
Functions: Controller for Floppy disk ☐ IBM PC

☐ Hard Disk Card
Functions: Controller for Hard disk ☐ IBM PC

☐ KF-MD300
Functions: 300 bps modem ☐ IBM PC

☐ Monochrome Monitor
Functions: Controller for Monitor ☐ IBM PC

☐ Multifunction Card
Functions: 64-256 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC

☐ RS-232C/Clock/Calendar
Functions: 1 serial port(s) ☐ IBM PC

☐ RS-232C/Parallel Card
Functions: 1 serial port(s); 1 parallel port(s) ☐ IBM PC

☐ 512K RAM Card
Functions: 64-512 kbytes RAM memory ☐ IBM PC

CAMBRIAN CONSULTANTS, INC.

☐ DriveIn
Functions: 3-1/2", 20 MB Disk drive ☐ IBM PC ☐ Introduced: 1986

CAMBRIDGE COMPUTER GRAPHICS

☐ Color Graphics Board
Functions: 16 color graphics ☐ IBM PC, XT, AT and compatibles

CAPITAL EQUIPMENT CORP.

☐ IEEE 488
Functions: IEEE-488 ☐ Controller for Printer ☐ Printer spooler/buffer ☐ IBM PC, AT, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 15,000 since 1983 ☐ Cost: $395

CAPITOL COMPUTER CENTER

☐ X-COM
Functions: 300-1,200 bps modem ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $399

CASE COMMUNICATIONS, INC.

☐ PC212A
Functions: 1 serial port(s) ☐ 300; 1,200 bps modem ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $499-$539

CERMETEK MICROELECTRONICS, INC.

☐ Cermetek 2400SPC
Functions: 300; 1,200; 2,400 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Introduced: 1986

☐ Info-Mate 212 PC
Functions: 1 serial port(s) ☐ 110; 300; 1,200 bps modem ☐ IBM PC ☐ Software supplied (included in price) ☐ Introduced: 1983 ☐ Cost: $149

☐ 1200SPC Modem
Functions: 1 serial port(s) ☐ 110; 300; 1,200 bps modem ☐ IBM PC ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $495

CGRS MICROTECH, INC.

☐ PC DIADAC 1
Functions: A/D and/or D/A conversion ☐ IBM PC ☐ Full length ☐ Introduced: 1986 ☐ Cost: $350

CHANNEL SYSTEMS INTERNATIONAL, INC.

☐ PC/CNA
Functions: 64 kbytes RAM memory ☐ 1 serial port(s) ☐ Synchronous mainframe link ☐ 3270/3770 SNA terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,500 since 1984 ☐ Cost: $1,195

CHATTERBOX VOICE LEARNING SYSTEMS

☐ IntroVoice V
Functions: Voice I/O or synthesis ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1986 ☐ Cost: $395

CHEETAH INTERNATIONAL, INC.

☐ Cheetah Card; Cheetah Card/70
Functions: 2560 kbytes RAM memory ☐ IBM PC AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,495; $2,295 (Card/70)

☐ Cheetah Combo; Cheetah Combo/70
Functions: 512-1536 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,275 (1.5 MB)

☐ TriComPlus
Functions: 3 serial port(s); 1 parallel port(s) ☐ IBM PC AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $495

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Is Getting A Fast Reputation.



HAUPPAUGE started earning a fast reputation with their 87 Math Pak, the combination of an 87 chip and 87 Software Pak that's been accelerating PC math since 1982.

Next came their racy 287 FAST/5, a math coprocessor module with its own 5MHz clock, speeding up PC/AT math by 25%. (Pictured above.)

Now, Hauppauge Unveils the 287 FAST10...
Our newest math coprocessor for the PC/AT, the 287 FAST10 moves out at 10MHz—more than doubling the speed of each floating point math operation. The FAST10 accelerates AutoCad, 1-2-3, Symphony, Turbo Pascal, Framework and more. The FAST10 also runs in PC/AT compatibles including the Compaq Deskpro 286, Sperry PC/IT and most 286 accelerator boards.

...And the 87 Software Pak Version 6.2
Designed to steal the heart of programmers, the 87 Soft-Ware Pak supports IBM's BASIC Compiler 1.0 and 2.0, and Microsoft's QuickBASIC, executing math-intensive programs up to 20 times faster! The 87 Software Pak also performs FFT's and Matrix operations. For example, a PC (or PC/XT) with an 87 Chip and 87 Software Pak can perform a 512-point complex FFT in just 1.1 seconds. What's more, a PC/AT with a FAST10 inverts a 25 by 25 element matrix in under 1 second.

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HAUPPAUGE Math Coprocessors

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287 FAST8 8MHz math coprocessor for PC/AT and compatibles ... **$379**
287 Chip PC/AT math coprocessor —runs at 4MHz in the old model IBM PC/AT and 5.33 MHz in the new model PC/AT **$219**
87 Chip Math coprocessor for IBM PC, PC/XT and compatibles **$129**
87-2 Chip Math coprocessor for 8MHz PC compatibles **$195**

HAUPPAUGE Math Coprocessor Paks

87 Software Pak V.6.2 Math coprocessor software support for IBM BASIC Complier 1.0, 2.0 and Microsoft's QuickBASIC. Plus, Matrix and FFT support, one year of free updates, complete source code and "8087 Applications and Programming" **$180**
87 QB PAK Math coprocessor support for Microsoft QuickBASIC and IBM BASIC Compiler ..... **$ 69**
Recalc+ Math coprocessor support for 1-2-3 version 1A ..... **$ 95**
HFT+ Complete Hayes Fourier Transform Package **$125**

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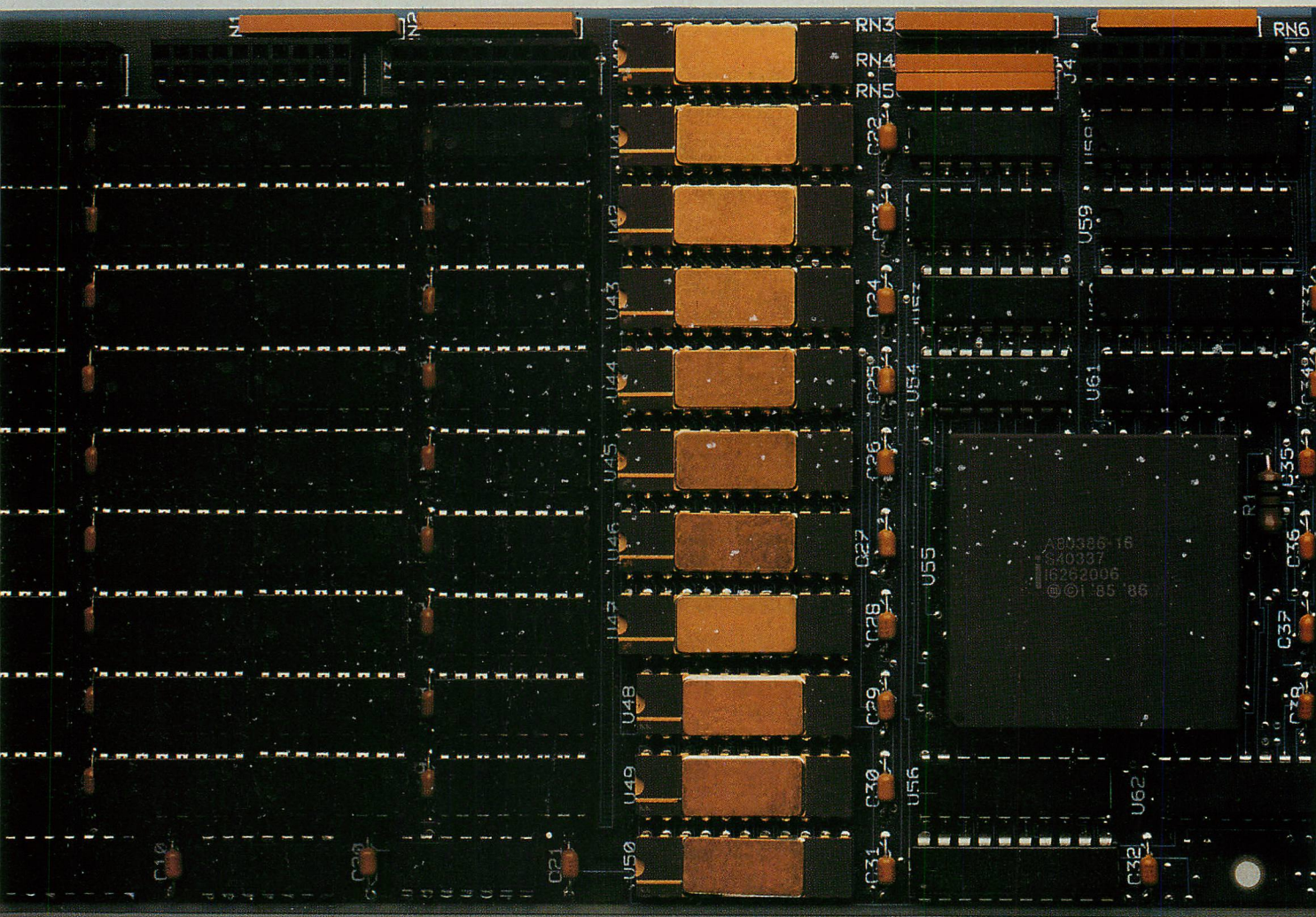
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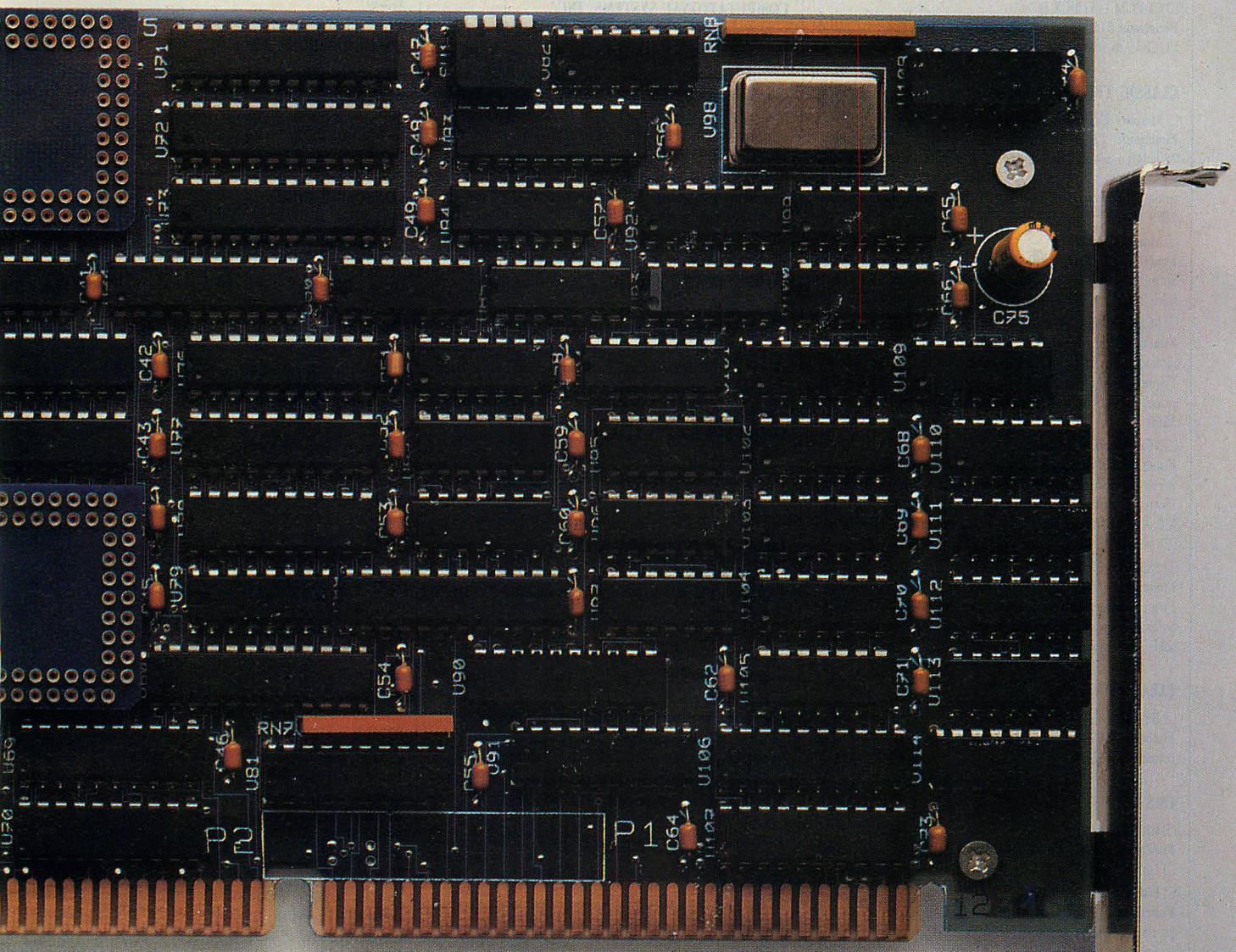
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CHORUS DATA SYSTEMS

☐ PC-Eye
Functions: Resolution: 640/320x200; 640x400; 512x512; 256 color graphics ☐ Process control ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,500 since 1984 ☐ Cost: $495

CHRISLIN INDUSTRIES, INC.
Computer Products Division

☐ CI-PCM 256K X 9
Functions: 256 kbytes RAM memory ☐ IBM PC ☐ Units sold: 2,000 since 1982 ☐ Cost: $100

☐ CI-PCM+ 512K X 9
Functions: 512 kbytes RAM memory ☐ 1 serial port(s) ☐ IBM PC ☐ Units sold: 3,000 since 1982 ☐ Cost: $275

CLASSIC TECHNOLOGY, INC.

☐ Memory Expansion Adapter
Functions: 128-384 kbytes RAM memory ☐ Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ Controller for Printer ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 2,000 since 1985 ☐ Cost: $399

☐ Memory Module
Functions: 2512 kbytes RAM memory ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 200 since 1985 ☐ Cost: $795

☐ Mono Graphics Adapter
Functions: 64 kbytes RAM memory ☐ Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ Controller for Printer ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 20,000 since 1983 ☐ Cost: $299

☐ Multifunction Adapter
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Controller for Printer; Terminal; Plotter ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 20,000 since 1983 ☐ Cost: $249

☐ 286 Speed Pak
Functions: 1024 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer; 80286 Coprocessor ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 2,500 since 1985 ☐ Cost: $995

CLEARPOINT, INC.

☐ RTRAM
Functions: 1024-16384 kbytes RAM memory ☐ IBM PC RT ☐ Introduced: 1986

CMS

☐ CMS Drive Plus
Functions: 3-1/2", 20 MB Disk drive ☐ IBM PC ☐ Full length ☐ Introduced: 1986 ☐ Cost: $995

☐ Plus-Pack
Functions: 640 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT, Portable

COGENT DATA TECHNOLOGIES, INC.

☐ The Database Machine
Functions: 256 kbytes RAM memory ☐ IBM PCNet LAN connection ☐ Controller for Hard disk ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 400 since 1984 ☐ Cost: $1,995

COMMUNICATION MACHINERY CORP.

☐ ENP-60
Functions: Ethernet LAN connection ☐ IBM PC AT and compatibles ☐ Software supplied ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,095

COMMUNIQUE' CORP.

☐ CQ-MCB2
Functions: 2 serial port(s) ☐ Synchronous mainframe link; Async, SDLC, HDLC protocol supported ☐ IBM PC and compatibles ☐ Half length ☐ Units sold: 300 since 1985 ☐ Cost: $325 (includes 2 cables)

COMPSOL CORP.

☐ Quicke Byte
Functions: disk emulation ☐ IBM PC, XT, AT ☐ Cost: $1,595 (1 MB)

COMPUTATIONAL SYSTEMS, INC.

☐ WAVEPAK DAS-200A
Functions: Resolution: 640x350; 16 color graphics ☐ A/D and/or D/A conversion ☐ modem; IBM PC Network, Ethernet LAN connection; Synchronous mainframe link ☐ Controller for Printer ☐ Printer spooler/buffer ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 40 since 1985 ☐ Cost: $6,995

☐ WAVEPAK Data Aquisition Unit
Functions: A/D and/or D/A conversion ☐ IBM PC and compatibles ☐ Full length ☐ Units sold: 100 since 1984 ☐ Cost: $6,995

COMPUTER CONTINUUM

☐ LAB 40-PC
Functions: 64 parallel port(s); A/D and/or D/A conversion ☐ Clock/calendar; Prototype board; Voice I/O or synthesis ☐ IBM PC ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 300 since 1985 ☐ Cost: $150

COMPUTER LOGICS LTD., INC.

☐ Syncsmart
Functions: 1 serial port(s) ☐ 2,400 bps modem ☐ IBM PC, XT, AT and compatibles

COMPUTER PERIPHERALS, INC.

☐ CPI 5251
Functions: IBM 5251 terminal/protocol emulation ☐ IBM PC ☐ Full length

☐ Drivemaster
Functions: Controller for Floppy disk ☐ IBM PC AT, XT ☐ Full length

☐ Half Pint
Functions: 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, AT and compatibles ☐ Half length

☐ Hook-Up
Functions: 1 serial port(s) ☐ 300; 1,200 bps modem ☐ IBM PC, XT, AT, Portable and compatibles ☐ Half length

☐ Little Dictator
Functions: Voice I/O or synthesis ☐ IBM PC ☐ Software supplied

☐ Mem-Plus
Functions: 0-384 kbytes RAM memory ☐ Printer spooler/buffer ☐ IBM PC and compatibles ☐ Full length

☐ Overachiever
Functions: 3036 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, AT ☐ Software supplied

☐ 7-Pack
Functions: 0-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied

COMPUTONE SYSTEMS, INC.

☐ ATvantage-X
Functions: 16 serial port(s) ☐ 38.4K bps modem ☐ Controller for Terminal; Printer ☐ Printer spooler/buffer ☐ IBM PC AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,000 since 1984 ☐ Cost: $1,295

COMSELL, INC.

☐ Palette Master
Functions: 64 kbytes RAM memory ☐ Resolution: 320x200; 256 color graphics ☐ IBM PC ☐ Full length ☐ Introduced: 1985 ☐ Cost: $895

CONCEPT TECHNOLOGIES, INC.

☐ Concept Board
Functions: 224 kbytes RAM memory ☐ Resolution: 720x352 monochrome graphics ☐ 2 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,250

CONOGRAPHIC CORP.

☐ Cono-Color 40
Functions: 128 kbytes RAM memory ☐ Resolution: 640x400; 512x512; 320/640x200; 16 color graphics ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $995

CONSOLINK CORP.

☐ ACE
Functions: 384 kbytes RAM memory ☐ modem ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $199-$299

☐ Consocard
Functions: 384 kbytes RAM memory ☐ 2 serial port(s) ☐ modem ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $299-$449

CONTRIVER ENTERPRISE CO., LTD.

☐ MF-MOD
Functions: 1 serial port(s); 1 parallel port(s) ☐ 300; 1,200 bps modem ☐ Clock/calendar ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $499

CONTROL SYSTEMS, INC.

☐ Artist Genlock
Functions: 4,096 color graphics ☐ IBM PC ☐ Software supplied ☐ Half length ☐ Units sold: 170 since 1984 ☐ Cost: $1,495

☐ Artist Monochrome
Functions: 256 kbytes RAM memory ☐ Resolution: 1024x768 monochrome graphics ☐ IBM PC, XT, AT ☐ Software supplied ☐ 3/4 length ☐ Units sold: 45 since 1986 ☐ Cost: $895

☐ Artist Transformer
Functions: 160 kbytes RAM memory ☐ Resolution: 640x480; 16 color graphics ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,300 since 1984 ☐ Cost: $1,295-$1,495

☐ Artist 1
Functions: 512 kbytes RAM memory ☐ Resolution: 1024x1024; 16 color graphics ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,500 since 1982 ☐ Cost: $1,995

☐ Artist 1 Plus
Functions: 512 kbytes RAM memory ☐ Resolution: 1024x768; 16 color graphics ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 470 since 1985 ☐ Cost: $2,295

☐ Artist 10
Functions: 1024 kbytes RAM memory ☐ Resolution: 1280/1024x1024/768; 256 color graphics ☐ IBM PC, XT, AT ☐ Software supplied ☐ Full length ☐ Units sold: 100 since 1986 ☐ Cost: $2,995

☐ Artist 2
Functions: 128 kbytes RAM memory ☐ Resolution: 640x400; 16 color graphics ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,900 since 1983 ☐ Cost: $895-$1,095

☐ Hostess 4
Functions: 4 serial port(s) ☐ 50-9,600 bps modem ☐ IBM PC, AT, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 3,360 since 1984 ☐ Cost: $445

☐ Hostess 8
Functions: 8 serial port(s) ☐ 50-9,600 bps modem ☐ IBM PC, AT, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 5,696 since 1982 ☐ Cost: $695

CORE INTERNATIONAL

☐ Model 5119-2
Functions: COREnet LAN connection ☐ Controller for Hard disk ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 300 since 1983 ☐ Cost: $1,295

CPU ELECTRONICS

☐ Card Table
Functions: 256-640 kbytes RAM memory ☐ Motherboard ☐ IBM PC ☐ Units sold: 2,500 since 1984 ☐ Cost: $295

☐ Full House
Functions: 256-768 kbytes RAM; EPROM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Controller for Floppy disk ☐ Clock/calendar; Motherboard ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Introduced: 1986 ☐ Cost: $595

☐ Jack of Hearts
Functions: Resolution: 720x348 monochrome graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1985 ☐ Cost: $225

☐ King of Diamonds
Functions: 0-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $175-$295

☐ King of Hearts
Functions: 256 kbytes RAM memory ☐ Resolution: 320/640x200/350; 64 color graphics ☐ 1 parallel port(s) ☐ IBM PC ☐ Half length ☐ Introduced: 1986 ☐ Cost: $495

☐ King of Spades
Functions: 1 serial port(s); 1 parallel port(s) ☐ Controller for Floppy disk ☐ Clock/calendar ☐ IBM PC XT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $175

☐ Queen of Diamonds
Functions: 0-384 kbytes RAM memory ☐ 2 serial port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $175-$295

☐ Ten of Spades
Functions: Controller for Floppy disk ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 1,500 since 1984 ☐ Cost: $110

☐ Top Card
Functions: 1000-2000 kbytes RAM memory ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $175-$575

CREATIVE DIGITAL, INC.

☐ Mercury Fastmodem 1200B
Functions: 1,200; 300 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Introduced: 1986 ☐ Cost: $299

☐ Mercury Fastmodem 2400B
Functions: 2,400; 1,200; 300 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $495

CREATIVE FIRMWARE

☐ Drive-IIA Adapter
Functions: Controller for Floppy disk ☐ IBM PCjr ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 3,000 since 1984 ☐ Cost: $89

CREATIVE MICROSALES

☐ RAM-Plus
Functions: 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC

C. S. D., INC.

☐ 4-111 Ultra Res
Functions: Resolution: 1024x1024 monochrome graphics ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $2,000

☐ 4-79 Ultra Res
Functions: Resolution: 1024x1024 monochrome graphics ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $995

CSS LABORATORIES, INC.

☐ AT512/AT1024
Functions: 512-4096 kbytes RAM memory ☐ Clock/calendar; 80286 motherboard ☐ IBM PC AT

☐ Mother Superior
Functions: 8 MHz 80286 motherboard ☐ IBM PC XT ☐ Full length ☐ Cost: $645

☐ Rainbow Graphics Adapter
Functions: Resolution: 320/640x200; 4 color graphics ☐ 1 parallel port(s) ☐ IBM PC

☐ TurboRAM
Functions: 2048 kbytes RAM memory ☐ IBM PC XT ☐ Full length ☐ Cost: $119

☐ XT286/PC286
Functions: 512-4096 kbytes RAM memory ☐ Clock/calendar; 80286 motherboard ☐ IBM PC, XT

☐ 286 Performer
Functions: 4096 kbytes RAM memory ☐ 6 MHz 80286 motherboard ☐ IBM PC AT ☐ Full length ☐ Cost: $645

CTC SYSTEMS, INC.

☐ VERSANET-4 AT; 8 AT
Functions: LAN connection ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $395-$495

☐ VERSANET-40; 80
Functions: LAN connection ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $595-$795

CXI, INC.
SEE AD ON PAGES 266/267

☐ PCOX/Graphics
Functions: Resolution: 720x396; 7 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,995

☐ PCOX/PLUS
Functions: modem ☐ IBM 3278/79 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $1,145

☐ PCOX/STANDARD
Functions: IBM 3278/79 terminal/protocol emulation ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1983 ☐ Cost: $895

☐ PCOX/3270 PC
Functions: Synchronous mainframe link ☐ IBM 3270, 3287 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,595

DATA ELEKTRONIK

☐ TC 1500
Functions: 64 kbytes RAM memory ☐ Controller for Mag tape ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 800 since 1985 ☐ Cost: $1,100

DATA MANAGEMENT SYSTEMS, INC.

☐ OVERTHRUSTER
Functions: 8088-2 Coprocessor ☐ IBM PC, XT ☐ Cost: $295

DATA TECHNOLOGY CORP.

☐ DTC 51 Host Adapter
Functions: Controller for Hard disk ☐ IBM PC, XT, AT ☐ Units sold: 15,000 since 1982 ☐ Cost: $155

☐ Model 3251
Functions: Controller for Floppy disk ☐ IBM PC, XT, AT ☐ Software supplied ☐ Half length ☐ Units sold: 1,500 since 1984 ☐ Cost: $195

☐ Model 5150CX
Functions: Controller for Hard disk; Cartridge tape ☐ IBM PC, XT, AT ☐ Software supplied ☐ Units sold: 1,000 since 1985 ☐ Cost: $150

☐ Model 5180C
Functions: Controller for Hard disk; Cartridge tape ☐ IBM PC AT ☐ Software supplied ☐ Half length ☐ Units sold: 5,000 since 1985 ☐ Cost: $205

☐ Model 5250CX
Functions: Controller for Floppy disk; Hard disk; Cartridge tape ☐ IBM PC, XT, AT ☐ Software supplied ☐ Half length ☐ Units sold: 5,000 since 1984 ☐ Cost: $326

☐ Model 5280C
Functions: Controller for Hard disk; Floppy disk; Cartridge tape ☐ IBM PC AT ☐ Software supplied ☐ Full length ☐ Units sold: 5,000 since 1985 ☐ Cost: $230

☐ Model 5350D
Functions: Controller for Hard disk; Mag tape; Cartridge tape ☐ IBM PC, XT, AT ☐ Software supplied ☐ Half length ☐ Introduced: 1985 ☐ Cost: $315

DATA TRANSLATION, INC.

☐ DT2801 Series
Reviewed May 1986 p. 52.
Functions: A/D and/or D/A conversion; Process control ☐ Clock/calendar ☐ IBM PC ☐ Software supplied ☐ Full length ☐ Introduced: 1982 ☐ Cost: $995-$1,970

☐ DT2803
Functions: Resolution: 256x256; color graphics ☐ A/D and/or D/A conversion ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,495

DATAPOINT CORP.

☐ INX-PC
Functions: ARCnet LAN connection ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $795

DATAPORT/CS

☐ Wireless Modem
Functions: 2 serial port(s); 1 parallel port(s) ☐ 300; 1,200; 2,400; 4,800; 9,600 bps modem ☐ Controller for Printer ☐ IBM PC ☐ Units sold: 2,500 since 1985 ☐ Cost: $675

HAUPPAUGE COMPUTER WORKS, INC.
358 Veterans Memorial Highway,
Suite MSI
Commack, NY 11725
516-360-3827

287 FaST10 is a high speed 10MHz math coprocessor for the IBM PC/AT and compatibles including the Compaq 386. It contains its own clock to run at a full 10MHz speed, and works with any speed 286 CPU including 6 and 8MHz PC/ATs and 10/12 MHz compatibles.

DATEC, INC. (NC)

☐ PAL Plus
Functions: 1 serial port(s) ☐ 300; 1,200 bps modem ☐ IBM PC, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $499

DATEM, LTD.

☐ dDCM 800
Functions: 2 kbytes RAM memory ☐ 2 parallel port(s); Process control; BITBUS interface ☐ IBM PC, Portable ☐ Software supplied ☐ Half length ☐ Introduced: 1984 ☐ Cost: $499

DATRAN CORP.

☐ Modem Accelerator
Functions: 75-19.2K bps modem; Data encryption ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $495

DBM, INC.

☐ Magna-3/McGraphicsPlus
Functions: 256-1024 kbytes RAM memory ☐ Resolution: 720/640x400; 640x350; 640/320x200; 720x348; 640x350; 16 color graphics ☐ 2 serial port(s); 1 parallel port(s) ☐ Asynchronous protocol supported ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $895-$1,195

DEFINICON SYSTEMS, INC.

☐ DSI-020; DSI-780
Functions: 16384 kbytes RAM memory ☐ 16.7 MHz MC68020 Coprocessor ☐ IBM PC XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $995-$3,295

☐ DSI-32E
Functions: 2048-12288 kbytes RAM memory ☐ 10 MHz NS32032 Coprocessor ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $2,295-$2,895

THE DESTEK GROUP

☐ Network Interface
Functions: 2 serial port(s) ☐ DesNet LAN connection ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,000 since 1982 ☐ Cost: $500-$750

☐ NIB 100/07
Functions: DesNet LAN connection ☐ Controller for Printer; Floppy disk; Hard disk ☐ IBM PC ☐ Full length ☐ Units sold: 500 since 1982 ☐ Cost: $697

☐ NIS 200
Functions: 1 serial port(s); 1 parallel port(s); IEEE-488 ☐ DesNet LAN connection ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Introduced: 1983 ☐ Cost: $800

DFE ELECTRONIC DATA SYSTEMS

☐ Tiger-32
Functions: 1024-2048 kbytes RAM memory ☐ disk; UNIX System V, XENIX 3.0 operating system emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $2,400

DIAMOND COMPUTER SYSTEMS, INC.

☐ Trackstar
Functions: 64 kbytes RAM memory ☐ 16 color graphics ☐ CP/M; Apple ProDOS, DOS, Pascal operating system emulation ☐ Z80A; 6502 Coprocessor; 80-col. card ☐ IBM PC ☐ Full length ☐ Introduced: 1986 ☐ Cost: $375

DIGIBOARD, INC.

☐ DIGICOM/PLUS
Functions: 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 2,400 since 1984 ☐ Cost: $89

☐ DIGICOM/4
Functions: 4 serial port(s) ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 1,420 since 1983 ☐ Cost: $429

☐ DIGICOM/8
Functions: 8 serial port(s) ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 850 since 1984 ☐ Cost: $649

☐ DIGIRAM/3MB
Functions: 512-3072 kbytes RAM memory ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1986 ☐ Cost: $295

☐ DIGIRAM/384
Functions: 384 kbytes RAM memory ☐ Clock/calendar; Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 8,400 since 1983 ☐ Cost: $129

DIGITAL COMMUNICATIONS ASSOCIATES, INC. (DCA)

☐ DCA/Forte PJ
Functions: Novell LAN connection ☐ 3278, 3279 terminal/protocol emulation ☐ IBM PC AT, XT ☐ Full length ☐ Introduced: 1983 ☐ Cost: $1,195

☐ IRMA
Functions: Synchronous mainframe link ☐ IBM 3278/79 (coax) terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 250,000 since 1982 ☐ Cost: $1,195

☐ IRMAcom/RJE
Functions: 1 serial port(s) ☐ Synchronous mainframe link ☐ IBM 2780/3780 RJE terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $895

☐ IRMAcom/3270
Functions: 1 serial port(s) ☐ Synchronous mainframe link ☐ IBM 3270 controller terminal/protocol emulation ☐ Controller for Printer; Terminal ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $895

☐ IRMAcom/3770
Functions: 1 serial port(s) ☐ Synchronous mainframe link ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $895

☐ IRMAlette
Functions: 1 serial port(s) ☐ Asynchronous mainframe link ☐ IBM 3278 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $395

☐ IRMAvision
Functions: IBM 3278 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $695

☐ IRMAX
Functions: Resolution: 640x420; 16 color graphics ☐ Synchronous mainframe link ☐ IBM 3278/79, S2G, S3G terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,595

☐ PC Modem Card FastLink
Functions: ☐ 300-2,400 bps modem ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,995

☐ Smart Alec
Functions: 5251 Model 11, 5291/92 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $895-$1,295

DIGITAL SOLUTIONS, INC. (PA)

☐ DSI-COLOR+
Functions: Resolution: 640x200; 16 color graphics ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 300 since 1985 ☐ Cost: $115

☐ DSI-HERC+
Functions: Resolution: 720x348 monochrome graphics ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 200 since 1985 ☐ Cost: $170

☐ DSI-Multi/IO
Functions: 2 serial port(s); 1 parallel port(s) ☐ Controller for Floppy disk ☐ Clock/calendar ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 150 since 1985 ☐ Cost: $125

☐ DSI-512
Functions: 64-512 kbytes RAM memory ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 250 since 1985 ☐ Cost: $110

☐ DSI-6Pak+
Functions: 64-384 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 350 since 1985 ☐ Cost: $150

DIGITAL TECH

☐ Multifunction Board
Functions: 64 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM 3278/79 terminal/protocol emulation ☐ Printer spooler/buffer ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 500 since 1984 ☐ Cost: $1,295

DIGITRONICS

☐ 6-IBM/IO
Functions: 1 serial port(s); Process control ☐ IBM PC, XT, AT ☐ Software supplied ☐ Half length ☐ Units sold: 100 since 1985 ☐ Cost: $250

DISCORTEX CORP.

☐ RGB+ Coloring System CX-1
Functions: 16 color graphics ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $395

DOLEN COMPUTER CORP.

☐ DC-1
Functions: monochrome graphics ☐ IBM PC and compatibles

DYAD TECHNOLOGY CORP.

☐ PC/VRTX
Functions: 64 kbytes RAM memory ☐ VRTX operating system emulation ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 40 since 1984 ☐ Cost: $1,695

DYNATEC SYSTEMS, INC.

☐ SuperCharger
Functions: 8088 Coprocessor ☐ IBM PC ☐ Software supplied ☐ Cost: $280

☐ Supercharger II
Functions: 9.54 MHz 8088, V20 accelerator ☐ IBM PC, XT ☐ Introduced: 1986 ☐ Cost: $199

EARTH COMPUTERS

☐ Turbo Accel-286
Functions: 512 kbytes RAM memory ☐ 80286 Coprocessor ☐ IBM PC ☐ Cost: $995

☐ TURBOSLAVE I
Functions: Clock/calendar; 8 MHz Z80H Coprocessor ☐ IBM PC ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,200

☐ TURBOSLAVE PC
Functions: 128 kbytes RAM memory ☐ 2 serial port(s) ☐ CP/M disk emulation ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Cost: $395

EASTMAN KODAK CO.

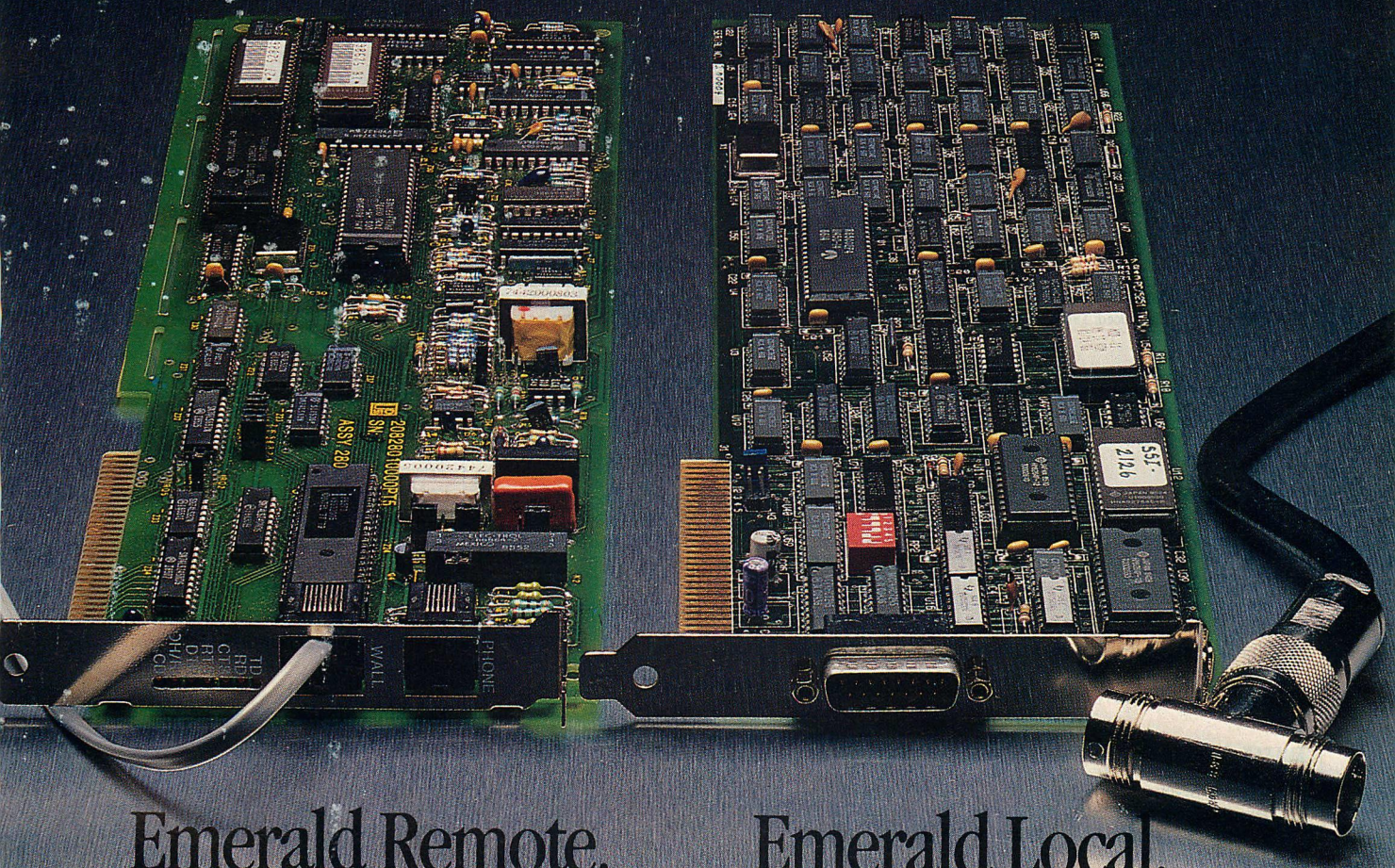
Business Systems Markets Division

☐ Floppy Disk Controller
Functions: Controller for Floppy disk ☐ IBM PC and compatibles ☐ Half length ☐ Introduced: 1986

EICON TECHNOLOGY CORP.

☐ Network Adapter
Functions: 128 kbytes RAM memory ☐ 2 serial port(s) ☐ AppleTalk; IBM PC Network, Token Ring Network LAN connection; Synchronous mainframe link; X.25 network connection ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 75 since 1985 ☐ Cost: $995-$1,395

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Introducing the new PC/5251 TWIN™ from Emerald Technology.

Good news! Your local options are finally as good as your remote. Emerald Technology, the leader in 5251 remote emulation is now shipping a local board with the features that users like you have been waiting for. And the dependability and performance our remote customers have enjoyed all along.

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IBM is a registered trademark of International Business Machines.

CIRCLE NO. 122 ON READER SERVICE CARD

ELECTRO-DESIGN, INC.

☐ COMBI-4
Functions: 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Units sold: 1,500 since 1983 ☐ Cost: $187

☐ Flexible Disk Controller
Functions: Controller for Floppy disk; Mag tape ☐ IBM PC, XT ☐ Units sold: 750 since 1984 ☐ Cost: $167

☐ MEMCARD
Functions: 64-256 kbytes RAM memory ☐ IBM PC XT ☐ Units sold: 1,500 since 1983 ☐ Cost: $109

☐ MULTIMEM 500
Functions: 512 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 50 since 1985 ☐ Cost: $312

ELECTROHOME, LTD.

☐ Quickpel
Functions: Resolution: 256x200; 16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $750

ELECTRONIC VAULTS, INC. (EVI)

☐ FASTCOMM 2400/I
Functions: 128 kbytes RAM memory ☐ 300; 1,200; 2,400 bps modem ☐ IBM 3270; VT100 terminal/protocol emulation ☐ IBM PC ☐ Half length ☐ Introduced: 1986 ☐ Cost: $599

☐ FASTCOMM 2496/I
Functions: 128 kbytes RAM memory ☐ 300; 1,200; 2,400; 4,800; 7,200; 9,600 bps modem ☐ IBM 3270; VT100 or TTY terminal/protocol emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Half length ☐ Introduced: 1986 ☐ Cost: $979

☐ UPTA 96/I
Functions: 128 kbytes RAM memory ☐ 4,800; 7,200; 9,600 bps modem ☐ 3270, VT100 terminal/protocol emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied ☐ Half length ☐ Introduced: 1985 ☐ Cost: $895

EMERALD TECHNOLOGY GROUP, INC.
SEE AD ON PAGE 187

☐ PC/5251 Plus
Functions: monochrome graphics ☐ 1 serial port(s); IEEE-488 ☐ 19.2K bps modem ☐ 5251 terminal/protocol emulation ☐ Controller for Printer ☐ Light pen support ☐ IBM PC XT, AT, Portable ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 3,600 since 1984 ☐ Cost: $750

EMULEX CORP.

☐ BoB Display Adapter
Functions: Resolution: 640/320x200; 640/320x400; 1-4 color graphics ☐ IBM PC, AT ☐ Full length ☐ Units sold: 10,000 since 1984 ☐ Cost: $399-$474

☐ COAX/3270
Reviewed Feb 1986 p. 48.
Functions: IBM 3278/9 (coax) terminal/protocol emulation ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $1,095

☐ Color Combo Card
Functions: 0-384 kbytes RAM memory ☐ Resolution: 640/320x200; 16 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 2,500 since 1985 ☐ Cost: $395-$1,145

☐ DCP/MUX
Functions: 128-512 kbytes RAM memory ☐ 80286 Coprocessor ☐ IBM PC AT, RT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $1,250-$1,495

☐ DCP/88VM
Functions: 64-512 kbytes RAM memory ☐ 4 serial port(s); 1 parallel port(s) ☐ 3278/9, 3274, 3770/80, 3287-2 terminal/protocol emulation ☐ IBM PC ☐ Full length ☐ Introduced: 1983 ☐ Cost: $1,000-$2,250

☐ DCP/88VMX
Functions: 512 kbytes RAM memory ☐ 4 serial port(s); 1 parallel port(s) ☐ 7.159 MHz V20 Coprocessor ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $1,475-$1,625

☐ IBM Host Adaptor (IB02)
Functions: SCSI ☐ Novell; IBM; Orchid; 3Com LAN connection ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,000 since 1984 ☐ Cost: $395

☐ Mega Memory Module
Functions: 0-3072 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,500 since 1985 ☐ Cost: $395-$5,495

☐ Mini-Mono Card
Functions: Resolution: 720x350 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, AT ☐ Half length ☐ Introduced: 1985 ☐ Cost: $225-$250

☐ Mono-Combo Card
Functions: 0-384 kbytes RAM memory ☐ Resolution: 720x350 monochrome graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,500 since 1985 ☐ Cost: $395-$1,145

☐ MPC II
Functions: 1 serial port(s) ☐ 3278/9, 3770/80, 3274 terminal/protocol emulation ☐ IBM PC ☐ Half length ☐ Introduced: 1985 ☐ Cost: $245

☐ PC/Short Memory
Functions: 0-384 kbytes RAM memory ☐ disk emulation ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 4,000 since 1984 ☐ Cost: $159-$759

☐ SB384 Time Spectrum
Functions: 0-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Controller for Printer ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 30,000 since 1984 ☐ Cost: $295-$895

☐ Short-Port Color Card
Reviewed Jan 1984 p. 66.
Functions: Resolution: 640/320x200; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, AT ☐ Half length ☐ Units sold: 5,000 since 1985 ☐ Cost: $220-$245

☐ SuperCharger
Functions: 512 kbytes RAM memory ☐ 8086 Coprocessor ☐ IBM PC ☐ Cost: $995

ENGEBRETSEN ENGINEERING

☐ SBC-2010
Functions: 64-1024 kbytes RAM memory ☐ Clock/calendar; 4.77 MHz 8088 motherboard ☐ IBM PC ☐ Cost: $369

EOTRON CORP.

☐ EOgraph
Functions: Controller for Graphics ☐ Printer spooler/buffer; Vector/raster converter ☐ IBM PC, XT, AT, Portable and compatibles ☐ Full length ☐ Cost: $595

ESE TECHNOLOGIES CORP.

☐ Multi-Comm
Functions: 4 serial port(s) ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 250 since 1985 ☐ Cost: $435

☐ Versacomm
Functions: 1 serial port(s) ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 1,500 since 1984 ☐ Cost: $140

☐ Versaport
Functions: 3 parallel port(s) ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 400 since 1984 ☐ Cost: $119

EVERETT/CHARLES MARKETING SERVICES, INC.

☐ PC Turbocharger
Functions: 640 kbytes RAM memory ☐ Process control ☐ Printer spooler/buffer ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,000 since 1984 ☐ Cost: $695

EVEREX SYSTEMS, INC.

☐ Edge
Functions: 64 kbytes RAM memory ☐ Resolution: 640x200; 720x348; 4 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 10,000 since 1985 ☐ Cost: $399

☐ Enhancer
Functions: Resolution: 640x350; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $425

☐ Evercom
Functions: 300-1,200 bps modem ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ 3/4 length ☐ Units sold: 5,000 Cost: $249

☐ Graphics Edge
Reviewed Jan 1986 p. 70.
Functions: 64 kbytes RAM memory ☐ Resolution: 640x200; 720x348; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 30,000 since 1984 ☐ Cost: $499

☐ Graphics Pacer
Functions: Resolution: 640x200 monochrome graphics ☐ Controller for Floppy disk ☐ IBM PC, XT, AT

☐ Magic Card
Functions: 384 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 30,000 since 1985 ☐ Cost: $275-$369

☐ Micro Enhancer
Functions: Resolution: 640x350; 16 color graphics ☐ IBM PC, XT ☐ Half length ☐ Introduced: 1986 ☐ Cost: $499

☐ RAM 2500
Functions: 2500 kbytes RAM memory ☐ IBM PC, XT, AT ☐ Software supplied ☐ Introduced: 1986 ☐ Cost: $2500

☐ RAM 3000
Functions: 3072 kbytes RAM memory ☐ IBM PC, XT, AT ☐ Software supplied ☐ Introduced: 1986 ☐ Cost: $280

EXPRESS SYSTEMS, INC.

☐ Express Hard Disk Card
Functions: 20 MB Disk drive ☐ IBM PC, XT and compatibles ☐ Cost: $595

EXTENDED SYSTEMS

☐ ESI-2086
Functions: 64-512 kbytes RAM memory ☐ 3 serial port(s); 1 parallel port(s) ☐ modem; PCNet; 3COM; NOVELL LAN connection ☐ Controller for Printer; Terminal ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1984 ☐ Cost: $695

☐ ESI-2088
Functions: 64-512 kbytes RAM memory ☐ 4 serial port(s) ☐ modem; PCNet; 3COM; NOVELL LAN connection ☐ Controller for Printer; Terminal ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1984 ☐ Cost: $755

FARADAY ELECTRONICS

☐ FE 2100
Functions: Controller for Floppy disk ☐ IBM PC ☐ Units sold: 16,500 since 1984 ☐ Cost: $1,295



Remember the first time you upgraded your color graphics hardware?

The thrill is still the same.

The discovery of color graphics. As a child, it was a significant event. As a business person, it will change the way you use your personal computer.

Genoa Systems proudly introduces a new and colorful technology for the PC called Spectra EGA. The Enhanced Graphics Adapter that lets you rediscover the benefits, and the thrill, of color graphics on your PC.

An EGA with a better vision.

EGA compatibility is an art that only Spectra has mastered. And, while other EGA hardware is incompatible with current industry standards, Spectra EGA fully supports hardware and software designed for the IBM Enhanced Graphics Adapter, Color Graphics Adapter and Monochrome Graphics Adapter.

This means that you don't have to wait around for new software updates in order to begin enjoying your EGA today.

A lot more than just pretty pictures.

The first thing you'll rediscover with your Spectra EGA is color. There is a whole lot more than ever before. Sixty-four separate colors, in fact, from which any sixteen can be displayed at once.

Next, you'll notice a higher resolution in both text and graphics modes.

The real fun comes in putting the board to work. You'll see soft scrolling, panning and windowing that was never before possible on a PC. And the flicker-free display will allow you to regulate these movements at any speed, or in any direction.

There are 512 characters carried in Spectra's memory that can all be displayed at once. Which is twice as many as previously possible on a PC.

And if you wish to use other characters, or even create your own alternate character set, Spectra will support those, too.

More colorful features.

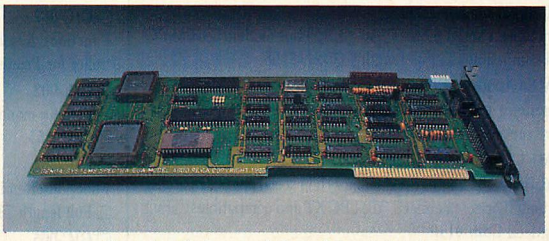
Each Spectra EGA comes fully equipped with a parallel printer port, light pen interface and 256K RAM on the single board. This is especially good news because a full 256K RAM is needed to run most popular graphics software effectively.

One thrilling price.

Perhaps the best news is Spectra's price.

Upon first glance you may find that the Spectra EGA and the IBM EGA seem to be very closely priced. But look again. Because the standard IBM EGA only comes with 64K RAM, whereas Spectra EGA comes with a full 256K.

Now, you may purchase the extra memory board you'll need from IBM at an additional cost of about 70–80 percent. Or you can buy Spectra EGA from Genoa...and rediscover the thrill of a bargain.



Spectra Enhanced Graphics Adapter

To find out more about Spectra, or a qualified Genoa distributor near you, call 408-945-9720. Or write to Genoa Systems Corporation, 73 E. Trimble Road, San Jose, CA 95131.

Spectra EGA from Genoa. Evolution in color graphics.

Genoa
We make PCs better.

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CIRCLE NO. 275 ON READERS SERVICE CARD

☐ FE 2200
Functions: monochrome graphics ☐ Controller for Terminal ☐ *IBM PC* ☐ Units sold: 18,000 since 1984 ☐ Cost: $80

☐ FE 5141
Functions: Controller for Floppy disk ☐ IBM PC ☐ Half length ☐ Units sold: 20,000 since 1984 ☐ Cost: $80

☐ FE 5200
Functions: Resolution: 350x720 monochrome graphics ☐ IBM PC ☐ Half length ☐ Units sold: 25,000 since 1984 ☐ Cost: $155

FORTRON CORP.

☐ FC-520
Functions: Resolution: 320/640x200; 4 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT ☐ Half length ☐ Units sold: 1,000 since 1985 ☐ Cost: $109

☐ FC-550
Functions: 64 kbytes RAM memory ☐ Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC ☐ Full length ☐ Units sold: 2,000 since 1985 ☐ Cost: $119

☐ FC-730; FC-750
Functions: 64-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,500 since 1985 ☐ Cost: $149

☐ FC-830
Functions: 512 kbytes RAM memory ☐ IBM PC XT ☐ Full length ☐ Units sold: 1,000 since 1984 ☐ Cost: $89

☐ FC-940
Functions: 384 kbytes RAM memory ☐ IBM PC ☐ Half length ☐ Introduced: 1985 ☐ Cost: $69

FOUNTAIN TECHNOLOGIES, INC.

☐ Clock/Calendar Card
Functions: Clock/calendar ☐ IBM PC ☐ Half length ☐ Cost: $39

☐ Color Graphics Printer Card
Functions: Resolution: 640/320x200; 4 color graphics ☐ 1 parallel port(s) ☐ IBM PC ☐ Full length ☐ Cost: $115

☐ Color Graphics Video Card
Functions: Resolution: 640/320x200; 4 color graphics ☐ IBM PC ☐ Full length ☐ Cost: $85

☐ FDC-AT
Functions: Controller for Floppy disk ☐ IBM PC, AT

☐ HD-25M
Functions: Controller for Hard disk ☐ IBM PC XT ☐ Full length

☐ Internal Modem 1200
Functions: 1 serial port(s) ☐ 300; 1,200 bps modem ☐ IBM PC and compatibles ☐ Full length ☐ Cost: $165

☐ MEM1000
Functions: 1024 kbytes RAM memory ☐ IBM PC, AT ☐ Software supplied

☐ MFT Multifunction Card
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC XT and compatibles ☐ Full length ☐ Cost: $149

☐ MFT3000
Functions: 3072 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer ☐ IBM PC, AT ☐ Software supplied

☐ Parallel Printer Card
Functions: 1 parallel port(s) ☐ IBM PC ☐ Half length ☐ Cost: $35

☐ Serial Communication Card
Functions: 1 serial port(s) ☐ IBM PC ☐ Half length ☐ Cost: $39

FRONTIER TECHNOLOGIES CORP.

☐ AdCom2
Functions: 64 kbytes RAM memory ☐ 2 serial port(s) ☐ Synchronous mainframe link; Asynchronous protocol supported ☐ Controller for Printer ☐ Clock/calendar ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1983 ☐ Cost: $275

☐ AdCom2-I
Functions: 256 kbytes RAM memory ☐ 2 serial port(s) ☐ Data encryption; Synchronous mainframe link ☐ Async, Bysync, HDLC, SDLC, X.25 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,495

☐ AdCom2-M
Functions: 128 kbytes RAM memory ☐ 2 serial port(s) ☐ Data encryption; Synchronous mainframe link ☐ Async, Bysync, HDLC, SDLC, X.25 terminal/protocol emulation ☐ Clock/calendar ☐ IBM PC ☐ Software supplied ☐ Full length ☐ Introduced: 1984 ☐ Cost: $850

☐ CADgraph-2
Functions: 128 kbytes RAM memory ☐ Resolution: 640x480; 1024x1024; 4-16 color graphics ☐ terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,295

FTG DATA SYSTEMS

☐ PXL-350
Functions: Light pen board ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 200 since 1985 ☐ Cost: $149-$189

GALACTICOMM, INC.

☐ BREAKTHROUGH
Functions: 300; 1,200 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $7,450

GALIL MOTION CONTROL, INC.

☐ DMC-400
Functions: Process control ☐ IBM PC ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 250 since 1985 ☐ Cost: $595

GALLANT INTERNATIONAL CORP.

☐ GIC-MB1
Functions: 640K 16-bit motherboard ☐ IBM PC XT ☐ Full length ☐ Cost: $120

☐ GIC-MB3
Functions: 256K motherboard ☐ IBM PC XT ☐ Full length ☐ Cost: $138

☐ GIC-001
Functions: Controller for Printer ☐ IBM PC XT ☐ Full length ☐ Cost: $69

☐ GIC-002
Functions: Resolution: 720x384 monochrome graphics ☐ Controller for Printer ☐ IBM PC XT ☐ Full length ☐ Cost: $75

☐ GIC-003
Functions: monochrome graphics ☐ IBM PC XT ☐ Full length ☐ Cost: $55

☐ GIC-004
Functions: Resolution: 640x200; 4 color graphics ☐ IBM PC XT ☐ Full length ☐ Cost: $59

☐ GIC-005
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC XT ☐ Full length ☐ Cost: $85

☐ GIC-006
Functions: Resolution: 320x200; 4 color graphics ☐ Controller for Printer ☐ IBM PC XT ☐ Full length ☐ Cost: $72

☐ GIC-007
Functions: 512 kbytes RAM memory ☐ IBM PC XT ☐ Full length ☐ Cost: $39

☐ GIC-008
Functions: 2 serial port(s) ☐ IBM PC XT ☐ Half length ☐ Cost: $29

☐ GIC-009
Functions: Controller for Floppy disk ☐ IBM PC XT ☐ Half length ☐ Cost: $37

☐ GIC-010
Functions: SASI/SCSI ☐ IBM PC XT ☐ Full length ☐ Cost: $85

GAMMALINK

☐ Gammacomm
Functions: 1 serial port(s) ☐ 4,800; 7,200; 9,600 bps modem ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 500 since 1984 ☐ Cost: $1,995

GATEWAY COMMUNICATIONS, INC.

☐ G/NET PC-LNIM
Functions: 64 kbytes RAM memory ☐ G/NET; Netware/G LAN connection ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 25,000 since 1983 ☐ Cost: $525

☐ WNIM
Functions: 64 kbytes RAM memory ☐ 4 serial port(s) ☐ G/NET; Netware/G LAN connection; Synchronous mainframe link ☐ Printer spooler/buffer ☐ IBM PC, XT, AT ☐ Software supplied ☐ Full length ☐ Units sold: 100 since 1984 ☐ Cost: $595

☐ WNIM-186
Functions: G/NET; Netware/G LAN connection ☐ 80186 Coprocessor ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $695

GATEWAY MICROSYSTEMS, INC.

☐ SyncLink SCC
Functions: 1 serial port(s) ☐ Synchronous mainframe link ☐ IBM PC, AT, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1983 ☐ Cost: $695

☐ SyncLink 201C
Functions: 1 serial port(s) ☐ 2,400 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $995

GENOA SYSTEMS CORP.
SEE AD ON PAGE 189

☐ Spectra EGA
Functions: 256 kbytes RAM memory ☐ Resolution: 720/640x350; 64 color graphics ☐ 1 serial port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $599

☐ Spectrum
Reviewed Jan 1986 p. 70.
Functions: 64 kbytes RAM memory ☐ Resolution: 720x348; 320x200; 16 color graphics ☐ 1 parallel port(s) ☐ 132-col. card ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $459

☐ Spectrum Plus
Functions: Resolution: 720x350; 16 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $499

☐ Spectrum 4600N
Functions: Resolution: 720x350; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Introduced: 1986 ☐ Cost: $349-$399

GREATWEST TECHNOLOGY, LTD.
SYSDYNE Products Division

☐ CGA P
Functions: Resolution: 160x100; 320x200; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles

☐ HDA 2
Functions: Controller for Hard disk ☐ IBM PC, XT and compatibles

☐ MB 4P
Functions: monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles

☐ MFB 384/MFB 0
Functions: 0-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ 64K Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT ☐ Software supplied

☐ MG 32P
Functions: Resolution: 720x348 monochrome graphics ☐ IBM PC, XT, AT and compatibles

☐ MOD 312F
Functions: 300-1,200 bps modem ☐ IBM PC, XT, AT ☐ Full length

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CIRCLE NO. 327 ON READERS SERVICE CARD

HAYES MICROCOMPUTER PRODUCTS, INC.

SEE AD ON PAGE 143

☐ **Smartmodem 1200B**
Functions: 0-300; 1,200 bps modem ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $549

HELIX SYSTEMS & DEVELOPMENT CORP.

☐ **Bubble Disk**
Reviewed May 1985 p. 123.
Functions: 128-512 kbytes RAM memory ☐ 1 serial port(s) ☐ disk emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $750-$1,495

HERCULES COMPUTER TECHNOLOGY

☐ **Color Card**
Functions: 16 kbytes RAM memory ☐ Resolution: 640/320x200; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT, Portable ☐ Half length ☐ Units sold: 170,000 since 1984 ☐ Cost: $245

☐ **Graphics Card**
Reviewed Mar 1984 p. 142.
Functions: 64 kbytes RAM memory ☐ Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 300,000 since 1982 ☐ Cost: $499

☐ **Graphics Card Plus**
Functions: Resolution: 720x348 monochrome graphics ☐ IBM PC, XT, AT ☐ 3/4 length ☐ Introduced: 1986 ☐ Cost: $299

HEXACE TECHNOLOGIES, INC.

☐ **Integrated Color Board**
Functions: Resolution: 640x200; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC ☐ Half length ☐ Introduced: 1985 ☐ Cost: $199-$299

☐ **Mono Graphics Card**
Functions: monochrome graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT, Portable and compatibles ☐ Software supplied ☐ Introduced: 1986 ☐ Cost: $289

☐ **Multi-Function Card**
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $199

HIGHWIN INTERNATIONAL, INC.

☐ **CK-3001**
Functions: 384 kbytes RAM memory ☐ 1 serial port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles

☐ **CK-3002/B**
Functions: Resolution: 640/320x200; 160x100; 4-16 color graphics ☐ IBM PC, XT and compatibles

☐ **CK-3004**
Functions: 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT and compatibles

☐ **CK-3005**
Functions: Resolution: 720x348 monochrome graphics ☐ IBM PC, XT and compatibles

☐ **CK-3006**
Functions: 1 serial port(s); 1 parallel port(s) ☐ Controller for Floppy disk ☐ Clock/calendar ☐ IBM PC, XT and compatibles

☐ **CK-3007**
Functions: 0-512 kbytes RAM memory ☐ IBM PC, XT and compatibles

☐ **CK-3008**
Functions: 0-384 kbytes RAM memory ☐ IBM PC, XT and compatibles

☐ **CK-3009**
Functions: 2 serial port(s) ☐ Clock/calendar ☐ IBM PC, XT and compatibles

☐ **CK-3010**
Functions: 0-512 kbytes RAM memory ☐ 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT and compatibles

☐ **CK-3011**
Functions: Controller for Floppy disk ☐ IBM PC, XT and compatibles

☐ **CK-3012**
Functions: 0-512 kbytes RAM memory ☐ IBM PC, XT and compatibles

HITACHI DENSHI AMERICA, LTD.

☐ **HD-9673A**
Functions: 9,600; 7,200; 4,800; 2,400 bps modem ☐ IBM PC

☐ **HD-9674A**
Functions: 9,600; 7,200; 4,800 bps modem ☐ IBM PC

☐ **HD-9675A**
Functions: 9,600; 7,200; 4,800 bps modem ☐ IBM PC

☐ **HD-9680A (XL-1)**
Functions: 9,600; 7,200; 4,800; 2,400; 300 bps modem ☐ IBM PC ☐ Half length

☐ **HM-9671A**
Functions: 300; 2,400; 4,800; 7,200; 9,600 bps modem ☐ IBM PC

HONEYWELL INFORMATION SYSTEMS, INC.

☐ **PC-LAN Card**
Functions: Ethernet LAN connection ☐ IBM PC and compatibles ☐ Introduced: 1986 ☐ Cost: $683

IBEX COMPUTER CORP.

☐ **IPC-100**
Functions: Controller for Mag tape ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 400 since 1983 ☐ Cost: $1,200

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ **Async Adapter**
Functions: 1 serial port(s) ☐ IBM PC ☐ Cost: $100

☐ **Baseband Adapter Card**
Functions: Ethernet LAN connection ☐ IBM PC RT ☐ Introduced: 1986 ☐ Cost: $850

☐ **Color Card**
Functions: Resolution: 640x200; color graphics ☐ IBM PC ☐ Cost: $244

☐ **Communications Adapter**
Functions: Multi-protocol communications adapter ☐ IBM PC RT ☐ Introduced: 1986 ☐ Cost: $850

☐ **IBM Enhanced Graphics**
Reviewed Apr 1985 p. 58.
Functions: 64-256 kbytes RAM memory ☐ Resolution: 640x350; 64 color graphics ☐ IBM PC ☐ Cost: $199-$524

☐ **IBM PC 256KB Memory**
Functions: 64-256 kbytes RAM memory ☐ IBM PC, Portable, XT ☐ Half length ☐ Introduced: 1984 ☐ Cost: $489

☐ **Memory Expansion**
Reviewed Dec 1984 p. 40.
Functions: 64-256 kbytes RAM memory ☐ IBM PC ☐ Cost: $265

☐ **PC Modem**
Functions: 0-300; 600; 1,200 bps modem ☐ IBM PC ☐ Half length

☐ **Printer Adapter**
Functions: 1 parallel port(s) ☐ IBM PC ☐ Cost: $75

☐ **Token-Ring Adapter Card**
Functions: IBM Token-Ring LAN connection ☐ IBM PC RT ☐ Introduced: 1986 ☐ Cost: $1,095

☐ **3278/79 Emulation Adapter**
Functions: IBM 3278/79 terminal/protocol emulation ☐ IBM PC, AT, XT

ICS

(division of Action Instruments)

☐ **AI016**
Functions: A/D and/or D/A conversion ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 200 since 1984 ☐ Cost: $1,295

☐ **AI04 A/D I/O Card**
Functions: A/D and/or D/A conversion ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 200 since 1984 ☐ Cost: $1,095

☐ **AI08 A/D I/O Card**
Functions: A/D and/or D/A conversion ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 200 since 1984 ☐ Cost: $829

☐ **AOB6 D/A Output Card**
Functions: A/D and/or D/A conversion ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 200 since 1984 ☐ Cost: $720

☐ **BDISK1**
Functions: 512 kbytes RAM memory ☐ 1 serial port(s) ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $695-$1,695

☐ **DIM 32/DOM 32**
Functions: Process control ☐ Digital I/O card ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 100 since 1984 ☐ Cost: $300

☐ **DMC3**
Functions: 64-768 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Controller for Floppy disk ☐ IBM PC ☐ Full length ☐ Units sold: 200 since 1984 ☐ Cost: $395

☐ **FOC1**
Functions: 0-19.2K bps modem ☐ Fiberoptic card ☐ IBM PC, XT ☐ Half length ☐ Introduced: 1985 ☐ Cost: $249

☐ **IEEE-488 Interface**
Functions: IEEE-488 ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $549

☐ **MC4**
Functions: 64-1024 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT ☐ Full length ☐ Units sold: 200 since 1984 ☐ Cost: $395

☐ **MC512**
Functions: 64-512 kbytes RAM memory ☐ IBM PC, XT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $229-$369

☐ **MFC2**
Functions: 64-256 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $395

☐ **MV2**
Functions: Resolution: 320x200; 16 color graphics ☐ IBM PC ☐ Full length ☐ Introduced: 1984 ☐ Cost: $449

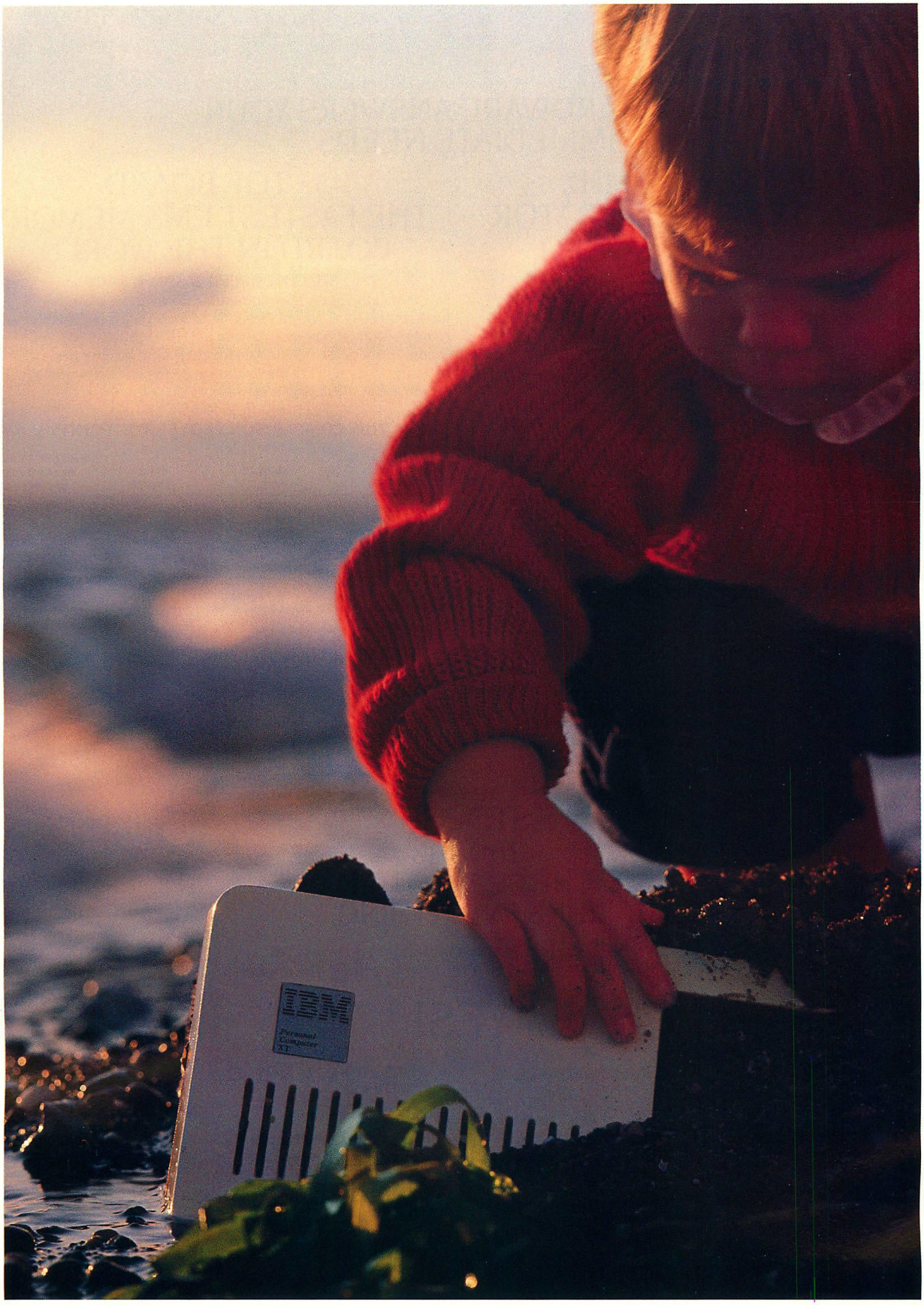
☐ **PAC4**
Functions: 1 parallel port(s) ☐ IBM PC, XT ☐ Half length ☐ Introduced: 1983 ☐ Cost: $89

☐ **RTD15**
Functions: RTD Input card ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 100 since 1984 ☐ Cost: $1,295

☐ **SGO4**
Functions: Process control ☐ Strain-gauge input card ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 50 since 1984 ☐ Cost: $1,295

☐ **TC15**
Functions: Process control ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 100 since 1984 ☐ Cost: $1,295

☐ **UDM-PC**
Functions: 1,200 bps modem ☐ Ultrasonic distance measuring card ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $649



DOES YOUR PC HAVE A FUTURE?

OUR HARDWARE ANSWERS YOUR IMMEDIATE NEEDS.

THE PC-286 16MHz THE FASTEST ACCELERATOR BOARD IN THE WORLD.

FAST IS BEST

Independent tests of major computers proved that the new **STD 16-MHz** accelerator board's Dhrystone benchmark numbers were astonishing!

YOU CAN ALWAYS JUDGE A PRODUCT BY THE COMPANY IT KEEPS

HARDWARE	DHRYSTONE	ESTIMATED PRICE
PC-286 16-MHz MSDOS 3.0	**3,571**	**$2,995**
IBM 4341-II VM/SP3 WATERLOO C1.2	3,333	$200,000+
VAX 11/785 UNIX 4.3 bsd	2,135	$200,000+
APOLLO DN 660 AEGIS SR9/IX 3.12	1,666	$52,000+
IBM PC/AT 80286 6-MHz MSDOS 3.0	1,250	$5,295

Dhrystone: *A set of benchmark tests used to compare the speed of different computers. The Dhrystone Benchmark program is available on disk in ADA, PASCAL and C. The IBM PC/XT which uses the 8088 processor, running at 4.77-MHz, achieves a Dhrystone score of 271.*

TOP BOARD THE FASTEST EMS MEMORY BOARD IN THE WORLD.

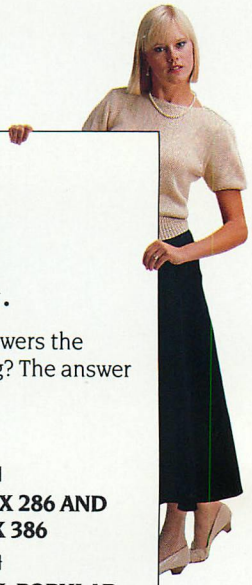
WIN THE SPEED & SPACE RACE

All other EMS Boards have something in common. What they don't have is speed & space. At Seattle Telecom & Data, our EMS boards transfer information quickly across our UNIQUE 16 bit Top Bus. Teamed up with the PC-286 Accelerator Board, we have the fastest memory solution in the world, and we are the only ones who offer 8 megabytes of memory in just two slots.

THIS COMPARISON PROVES THE POINT

EMS BOARDS	DATA PATH	TIME (SPEED)	NUMBER OF SLOTS NEEDED FOR 8 MEGABYTES
TOP BOARD	**16 BIT TOP BUS SOLUTION**	**37 SECONDS**	**2**
INTEL Above Board	8 BIT PC BUS	89 SECONDS	4

- *These numbers are based on Sieve of Eratosthenes benchmark procedure – Byte Magazine, January, 1983.*
- EMS – *Expanded Memory Specification*



STD-386 16 MHz THE BOARD THAT RUNS EVERYTHING.

The new STD-386 16MHz accelerator board answers the biggest question of all. Will it run on everything? The answer is

YES!

- **A FULL HARDWARE SOLUTION**
- **RUNS PC DOS 8086, 286,386 SOFTWARE**
- **RUNS 3 TIMES FASTER THAN A PC-AT**
- **RUNS XENIX 286 AND XENIX 386**
- **RUNS ON ALL POPULAR PC-AT CLONES**
- **RUNS MORE THAN ONE OPERATING SYSTEM SIMULTANEOUSLY**

"The companies named in this brochure are trademarks of their manufacturers."

RELIABILITY MEANS QUALITY. WE GUARANTEE IT.



EACH BOARD IS RIGOROUSLY TESTED.

At STD, reliability starts with professionals who understand the meaning of quality control.

Because we utilize the latest CAE/CAD design techniques, we control all phases of the engineering process. We design quality into the product. We guarantee this quality through a 96 - hour burn-in, in-circuit testing, and complete functional testing.

NO ONE SPENDS MORE TIME ON DETAILS.

During the design and execution of STD boards, each design element undergoes months of planning, analysis, and testing. Superior products are not created by accident.

We aggressively select the components we use to take advantage of every available technological innovation. This adds significant value to our products.

YOUR PC'S FUTURE IS WITHIN YOUR GRASP.

Your PC's future doesn't have to be all washed-up. We think the future for millions of personal computers is excellent. Because of the present investment you have in personal computers, abandoning your existing hardware is not in your best interest. Our mission in designing superior enhancement hardware for your PC is to give you practical alternatives.

Technology continues to improve with time. The issue for all of us is not trying to stop time, but to prepare for the future. The planning for the prolonged useful lifespan of your PC is the mission of Seattle Telecom & Data.

BUYING THE BEST IS A SMART INVESTMENT.

STD products offer state-of-the-art compatibility and reliability. Along with this is our fully engineered hardware solution. We think that the partnership between our products and the host IBM PC or clone should be transparent to you once the cover is closed. We don't use software strategies because we are convinced that full software and hardware compatibility can not be reached by this means.

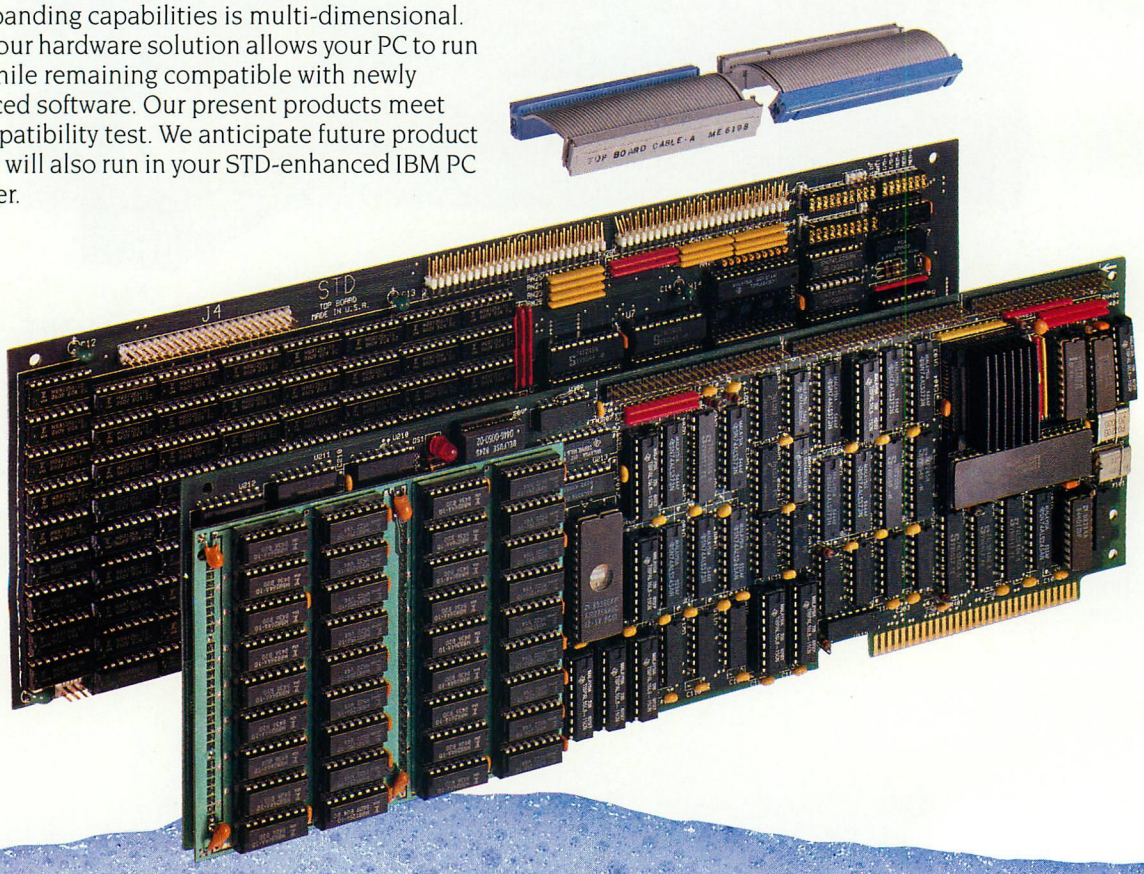
Expanding capabilities is multi-dimensional. At STD, our hardware solution allows your PC to run faster while remaining compatible with newly introduced software. Our present products meet the compatibility test. We anticipate future product releases will also run in your STD-enhanced IBM PC computer.

Our present products fit comfortably into either the DOS or XENIX world. This did not happen by accident. The demands for more speed, greater memory and upward compatibility will continue to be addressed at STD.

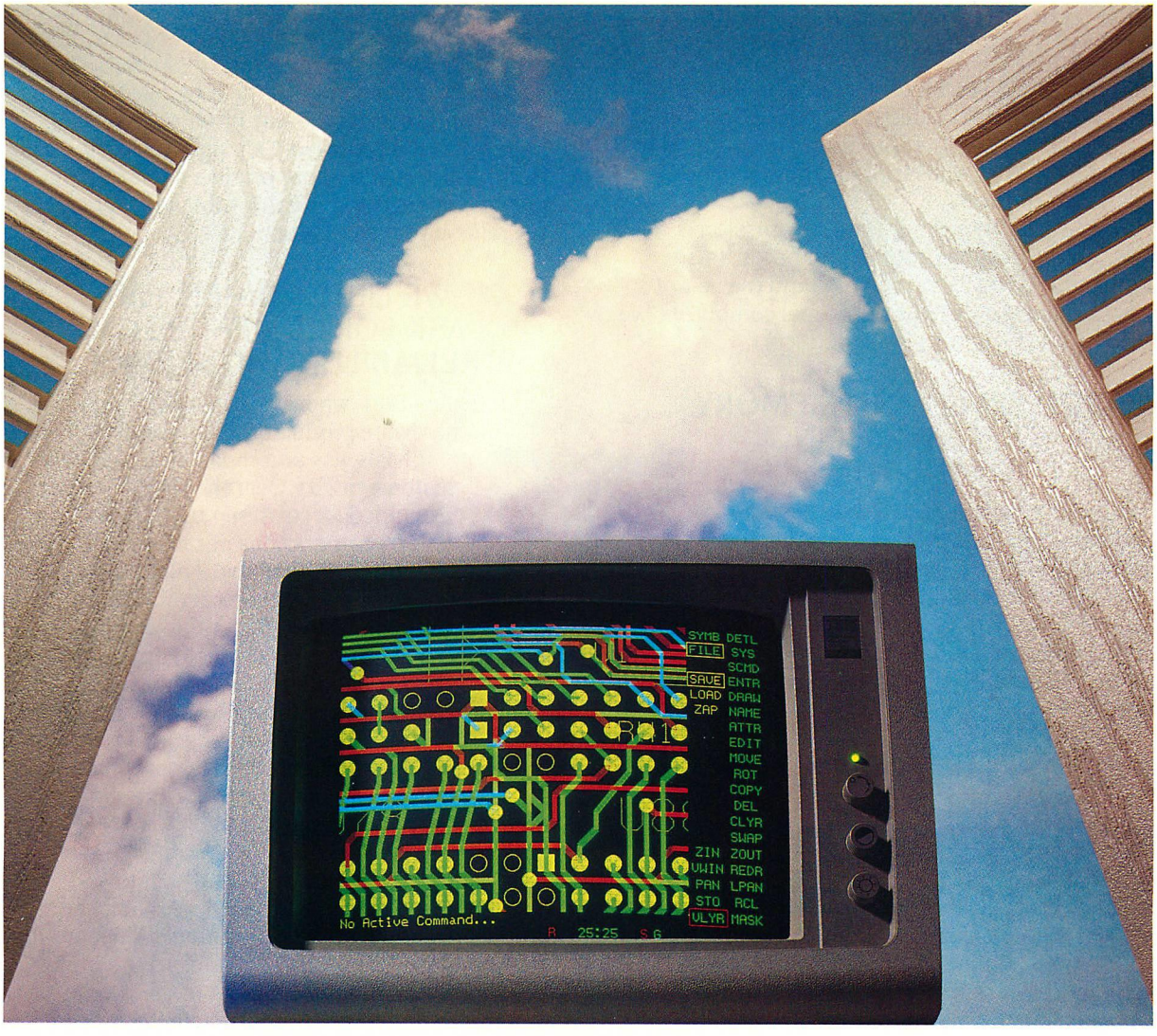
IT'S YOUR CHOICE.

In the end, it will be your choice. The lifespan of most present day hardware and software products is about twelve to eighteen months. But changing products is expensive and time consuming. For some this is a solution. For others a different approach is the right one. A significant number of present PC owners should enhance their existing hardware with products that meet the three key criteria; (1) Compatibility of both hardware and software, (2) Quality and, (3) Service.

The STD accelerator and EMS memory boards meet all three criteria. Please contact us for more information on how our products can meet your needs and significantly prolong your PC's useful life. After careful review, you will appreciate the choices you have.



YOUR BEST INVESTMENT STRATEGY IS TO UPGRADE WITH STD.



BY CONTINUING TO CREATE NEW PRODUCTS, YOUR PC'S FUTURE IS PROTECTED.

Since the founding of Seattle Telecom & Data in 1981, we have welcomed the future as a partner. We think that the need for enhanced capabilities of personal computers is where we can make a major contribution. Companies throughout the world have made a significant financial commitment to personal computers. The most cost-effective investment for meeting tomorrow's processing needs is to upgrade. This incremental investment is today's most cost-justified strategy.

Today's software is increasing the compatibility requirements of hardware manufacturers. Connectivity of PC to mainframe, network to network, and an improved type of workstation are STD's projects for the future.

Anticipating change is normal at STD and we continue to grow to meet the increased demand for our products. With this success has come a renewed sense of commitment to the future. At STD the future is bright.

PC ENHANCEMENT IS OUR BUSINESS.

UPGRADING YOUR PC IS THE RIGHT ANSWER.

The child's world is full of wonderful fantasies. In contrast, system manufacturers and the people who purchase computer products are not blind to the reality that purchases made today will be obsolete tomorrow.

At Seattle Telecom & Data our mission is to stop your PC's aging process. Our products are designed and manufactured to stand the test of time by enhancing existing personal computers. We build the future into today's products.

WE ADD SPEED AND MEMORY WITHOUT SACRIFICING COMPATIBILITY.

Our design philosophy is to build innovative products that improve the speed and memory capability of your PC. Seattle Telecom & Data offers the fastest PC accelerator and companion memory board in today's market. Compatibility protects your investment.



STD'S HARDWARE SOLUTION IS THE BEST BUY.

STD's hardware approach maintains 100% IBM compatibility. This means that when IBM changes PC-DOS, your hardware will remain compatible.

Some other manufacturers use a software approach because it is less expensive. It also means that extensive software is required. When PC-DOS changes, software incompatibilities and the necessity for you to reinstall or "patch" your software will inevitably appear.

When you install a PC-286 or STD-386 accelerator board, you remove the old 8088 or 80286 CPU chip from the IBM motherboard. This is how we maintain IBM hardware compatibility. When you install STD's EMS memory board the TOP BOARD, the unique Top Bus (a 16 bit data path) can be used to further enhance performance.

STD products change none of the important compatibility standards of the IBM design but significantly control the way in which improved performance is achieved. This superior engineering is the value we add to our products. Over the years, our customers recognize this value and appreciate the reliability and compatibility.

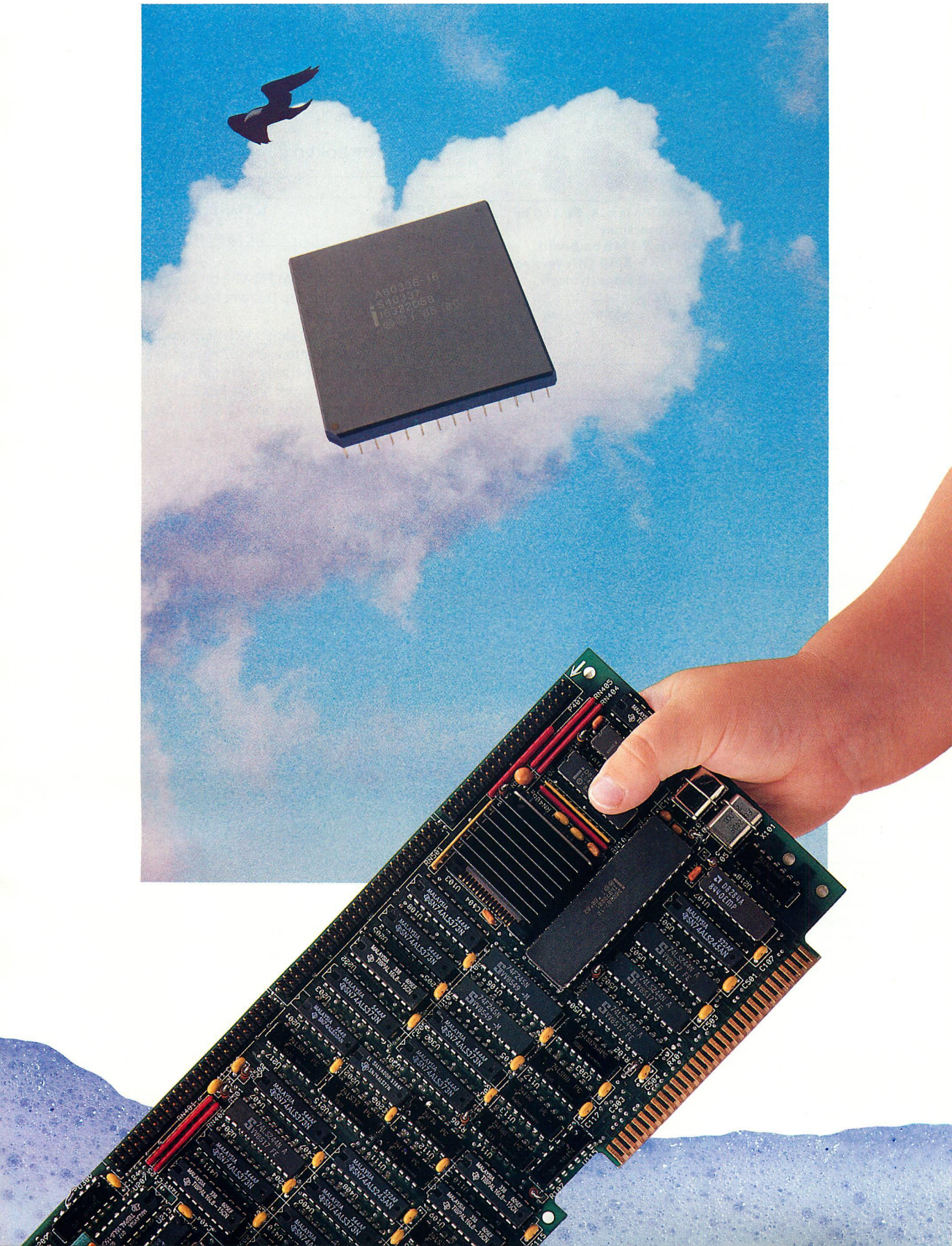
WE LISTEN WHEN YOU ASK FOR COMPATIBILITY, RELIABILITY AND SERVICE.

Since 1981, when we developed our first hardware products, our engineering emphasis was accompanied by a strong customer focus. Over the years STD has expanded its customer base of Fortune 1500 corporations because of our strong philosophy of offering the highest value in each product we manufacture. This value is reflected in our three point philosophy; Compatibility, Reliability and Service for all products we build.

This added value is our full solution approach to continued growth of our product line. Our thinking has always been that eventually IBM PC DOS and XENIX operating systems must run on the same underlying hardware. Because of this conviction; starting in early 1984 we planned our products to run in both environments. Clients who have bought STD products can feel secure in the knowledge that their investment in our products won't wash up on the shores of time because of short sightedness or quick fix approaches. Today, as in the past, our products are just as much at home in the XENIX environment as they are in the DOS environment.

The design versatility built into every STD board allows you to run your software either under DOS with EMS compatibility or in the XENIX environment.

YOUR PC HAS A FUTURE.
SEATTLE TELECOM & DATA HAS YOUR ANSWER.



STD HAS YOUR ANSWER

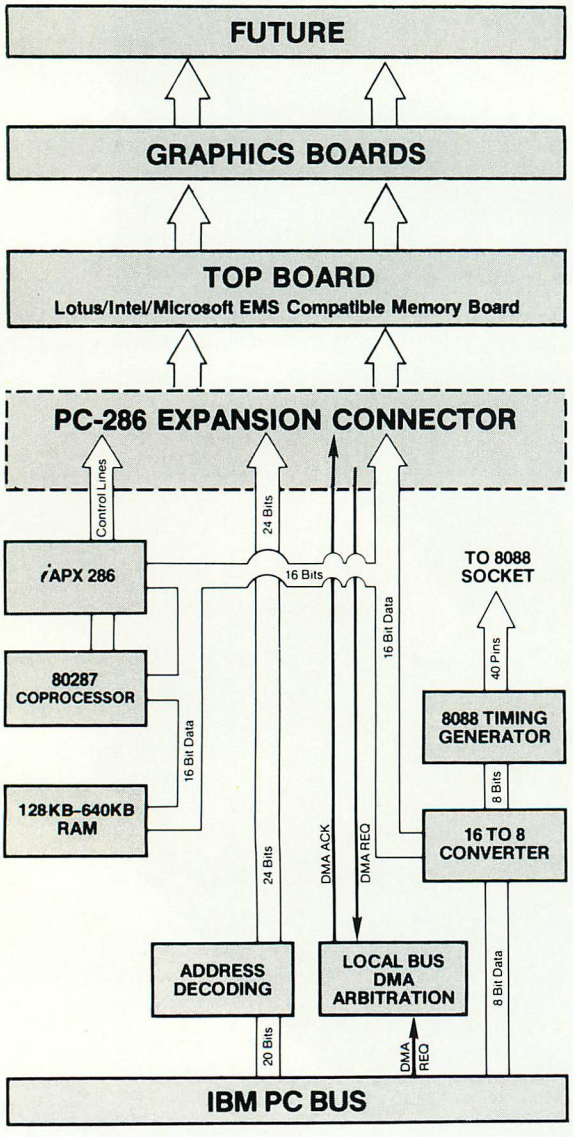
PC-286

The PC-286 is unique. It provides the only 16 bit expansion bus for high performance peripherals such as STD's Top Board that takes advantage of 80286 processing power in the XT.

The Seattle Telecom and Data PC-286 is a plug and play productivity tool. All the necessary firmware is provided on the board so that the PC-286 has the fastest possible processing speed with no user intervention. No special disks are required to move software or BASIC into the fast 16 bit memory. The PC-286's operation is transparent to the user.

SPECIFICATIONS

Central Processing Unit:	**iAPX80286 in 6, 8, 10, 12.5 or 16 MHz versions**
RAM:	**640 K to 2.1 MB on-board**
Math Co-processor:	**80287 in 5, 8, 10 MHz versions**
Power Requirements:	**5 volts, 3.0 amps (typical)**
Temperature:	**0 to 40 degrees C**
Humidity:	**0 to 90% non-condensing**



TOP BOARD
LIM/EMS COMPATIBILITY

Top Board frees your IBM PC XT from the 640K memory limit of DOS. Increase your productivity with up to 8 MB of expandability and full compatibility with the Lotus/Intel/Microsoft (LIM) Expanded Memory Specification (EMS).

Top Board meets or exceeds industry design standards and provides exceptional performance. The 16 bit Top bus and a flexible paging scheme make your EMS-compatible applications and multi-tasking software run faster.

TOP BOARD CONFIGURATIONS

PRODUCT	DESCRIPTION
TB-A	**6,8 MHz 512K or 2 MB**
TB-B	**10, 12.5 MHz 512K or 2 MB**

- Runs on the standard IBM PC/XT 8 bit bus in stand-alone or on the faster 16 bit Top bus when used with STD's PC-286 accelerator board.
- Includes Windows, the expanded memory-compatible operating and applications environment from Microsoft.
- Supports expanded memory software applications such as Lotus 1-2-3, Framework II, and Ready!.
- Memory can be expanded up to 2 MB on one board and to 8 MB for the entire system.

THE STD-386

The STD-386 16 MHz accelerator board is compatible with 6 and 8 MHz IBM PC/ATs. An optional 80387 co-processor can be installed on the board. The STD-386 is compatible with AT clones at speeds up to 16 MHz and will support both DOS and XENIX in the protected and unprotected modes. 8086 and 80286 compatibility have been designed into the STD-386. The upgrading of your AT will be user-transparent and requires no software.

DESCRIPTION

- **80386-16 MHz and optional 80387 co-processor**
- **2 MB to 16 MB memory on-board**
- **Full 32 bit memory bus**
- **Fits in a standard IBM/AT slot**

Listening to Customers is Our Future.

Seattle Telecom & Data, Inc., 12277 - 134th Court N.E., Suite 205, Redmond, WA 98052-2429 (206) 820-1873

IDEASSOCIATES, INC.

☐ All-Board
Functions: Resolution: 640x350; 16 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ Controller for Hard disk ☐ Clock/calendar ☐ IBM PC ☐ Introduced: 1986 ☐ Cost: $545

☐ IDEA Minicomm
Functions: Synchronous mainframe link ☐ 3270/BSC, 3780, 3770, SNA terminal/protocol emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT, Portable ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $295

☐ IDEA Minimax
Functions: 128-384 kbytes RAM memory ☐ Printer spooler/buffer ☐ IBM PC, XT, AT, Portable ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $295

☐ IDEAcomm 1200
Functions: 300; 1,200 bps modem ☐ IBM PC, AT, Portable ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $495

☐ IDEAcomm 2400
Functions: 300; 1,200; 2,400 bps modem ☐ IBM PC, AT, Portable ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $795

☐ IDEAcomm 3278
Reviewed Feb 1986 p. 48.
Functions: Synchronous mainframe link ☐ IBM 3278/79 2A, 2B terminal/protocol emulation ☐ IBM PC, XT, AT, Portable ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $995

☐ IDEAcomm 5250/Remote
Functions: IBM 5251-11, 5291, 5292-2 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Half length ☐ Cost: $795

☐ IDEAcomm 5251
Functions: IBM 5251-11, 5291, 5292-1 terminal/protocol emulation ☐ IBM PC, XT, AT, Portable ☐ Full length ☐ Cost: $895

☐ IDEAdisk Plus
Functions: 64-256 kbytes RAM memory ☐ 1 serial port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, Portable, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,995

☐ IDEAgraph
Functions: 128-256 kbytes RAM memory ☐ Resolution: 1024x1024; 256 color graphics ☐ IBM PC, XT, AT, Portable ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $995-$1,895

☐ IDEAmax 384
Functions: 64-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT, Portable ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $275

☐ IDEAmini I/O
Functions: 2 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, Portable, AT ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $175

☐ IDEASupermax
Functions: 0-4096 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $495-$2,595

☐ IDEASupermax/EMS
Functions: 0-4096 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ IBM PC AT ☐ Full length ☐ Cost: $595-$2,395

IEV CORP.

☐ VIP 1200/VIP 2000
Functions: 512 kbytes RAM memory ☐ Resolution: 640x408; 544x480; 16 color graphics ☐ 68000 Coprocessor ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,695-$2,495

ILC DATA DEVICE CORP.

☐ BUS-65515
Functions: 64 kbytes RAM memory ☐ Mil. Std. 1553 interface ☐ 12 MHz clock ☐ IBM PC ☐ Full length ☐ Cost: $4,995

IMAGE TECHNOLOGY, INC.

☐ Compatible Pak
Functions: 64-384 kbytes RAM memory ☐ Clock/calendar ☐ IBM PC ☐ Cost: $299

☐ Function Pak 512
Functions: 64-512 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT ☐ Full length ☐ Cost: $349

☐ Parallel Printer Card
Functions: 1 parallel port(s) ☐ IBM PC ☐ Cost: $70

☐ RAM Card
Functions: 64-384 kbytes RAM memory ☐ IBM PC ☐ Cost: $189

☐ Short RAM Card II
Functions: 256-512 kbytes RAM memory ☐ IBM PC and compatibles ☐ Half length ☐ Cost: $149 (512K); $124 (256K)

IMSI

☐ IMSI MGB
Functions: Resolution: 720/640x350; 640/320x200; color graphics ☐ IBM PC, XT, AT and compatibles ☐ Introduced: 1986 ☐ Cost: $549

INDELEC, INC.

☐ PCL-20-1
Functions: Resolution: 640x200; 16 color graphics ☐ IBM PC, XT, AT, 5531

☐ PCL-2000
Functions: Resolution: 640x200; 16 color graphics ☐ 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT, Industrial

INDTECH, INC.

☐ Monochrome Card
Functions: Resolution: 720x350 monochrome graphics ☐ IBM PC, XT

☐ Printer Card
Functions: 1 parallel port(s) ☐ IBM PC, XT

☐ 3274/6 Type A
Functions: 3278/9 terminal/protocol emulation ☐ IBM PC, XT

☐ 512KB Memory Card
Functions: 64-512 kbytes RAM memory ☐ IBM PC, XT

INFOCAP

☐ Series 1000
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT and compatibles ☐ Units sold: 79 since 1986 ☐ Cost: $1,500

INFORMATION TECHNOLOGIES, INC.

SEE AD ON PAGE 271

☐ LINKUP I MODEL 502
Functions: 56 kbytes RAM memory ☐ 2 serial port(s) ☐ Novell LAN connection; Synchronous mainframe link; Asynchronous protocol supported ☐ IBM 3270/3770 SNA, 3270/3780 BSC; DEC VT-52/100; TTY terminal/protocol emulation ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,000 since 1985 ☐ Cost: $995

☐ LINKUP XT MODEL 302
Functions: 2 serial port(s) ☐ Synchronous mainframe link ☐ IBM 3270/3770 SNA, 3270/3780 BSC; DEC VT 52/100/102; Sperry UTS 20/40 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 3,000 since 1984 ☐ Cost: $785

INMAC

☐ Model 8044
Functions: 300-1,200 bps modem ☐ IBM PC ☐ Software supplied (included in price) ☐ Cost: $499

INNOVATIVE TECHNOLOGY, INC. (GA)

☐ NITA
Functions: Audio board ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Introduced: 1985 ☐ Cost: $1,995

INTEGRATED NETWORK SYSTEMS, INC. (INS)

☐ SDLC Gateway PC Adapter
Functions: PC Network; IBM Token Ring LAN connection; Synchronous mainframe link ☐ 3274, 3278/3279, 3287 terminal/protocol emulation ☐ IBM PC, XT, AT, Portable and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $1,995

☐ SDLC Loop PC
Functions: 1 serial port(s) ☐ 8100 loop ☐ 3278/3279, 3274, 3287 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,275

☐ SDLC PC
Functions: Synchronous mainframe link ☐ 3278/3279, 3274, 3287 terminal/protocol emulation ☐ IBM PC, XT, AT, Portable and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $995

☐ 8100 Gateway PC Adapter
Functions: PC Network; IBM Token Ring LAN connection; 8100 loop ☐ 3278/3279, 3274, 3287 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $2,275

INTEL CORP.

Personal Computer Enhancement Operation
SEE AD ON PAGES 182/183/194/195

☐ Above Board PS/AT
Functions: 512-1524 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer ☐ IBM PC AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $595-$1,095

☐ Above Board PS/PC
Functions: 256-1524 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC XT and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $395-$995

☐ Above Board/AT
Functions: 2048 kbytes RAM memory ☐ Printer spooler/buffer ☐ IBM PC AT and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $545-$1,095

☐ Above Board/PC
Reviewed Feb 1986 p. 66.
Functions: 2048 kbytes RAM memory ☐ Printer spooler/buffer ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $345-$995

INTELLIGENT DATA SYSTEMS, INC.

☐ B-415
Functions: 16 kbytes RAM memory ☐ Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,000 since 1985 ☐ Cost: $190

☐ B-450
Functions: 64 kbytes RAM memory ☐ Resolution: 640x200/350/400; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1986 ☐ Cost: $294

☐ B-525
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ 300-9,600 bps modem; Ethernet LAN connection ☐ Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,000 since 1985 ☐ Cost: $188

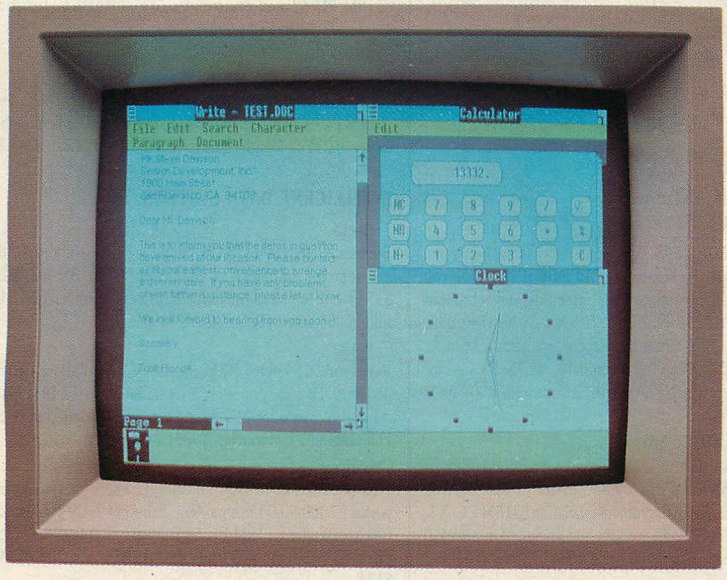
INTELLIGENT TECHNOLOGIES INTERNATIONAL CORP.

☐ Async Exchange
Functions: 1 serial port(s) ☐ Asynchronous protocol supported ☐ DEC VT-100/52 terminal/protocol emulation ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $150

The me always the

–192K. For all its pluses,
networking has a minus.

–66K, –128K, –128K.
A word of warning: Too many
pop-ups can have a negative
effect on your memory.



–320K. Windowing can give you a whole new outlook.
It can also gobble up a whole lot of memory.



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mory is first to go.



It can happen just like that.

One minute you've got a walloping 640K, the next minute, you've got zip.

That's because each new application you add devours precious RAM.

Fortunately, you can avoid playing memory roulette. With an Above™ Board from Intel.

Above Board is more than just another slam bam memory board. It's a long-term memory solution.

It not only takes you up to 640K of conventional memory, it gives you up to 4 megabytes of expanded memory. Based on the EMS standard developed by Lotus,® Microsoft® and the folks paying for this ad.

So now you can take advantage of applications like the ones over there on the left, knowing you've got memory to spare.



Plus (and it's going to be a big plus in the future), Above Board provides extended memory, which will support protected mode DOS. So you won't have to eighty-six your Above Board, no matter what happens in '87. And beyond.

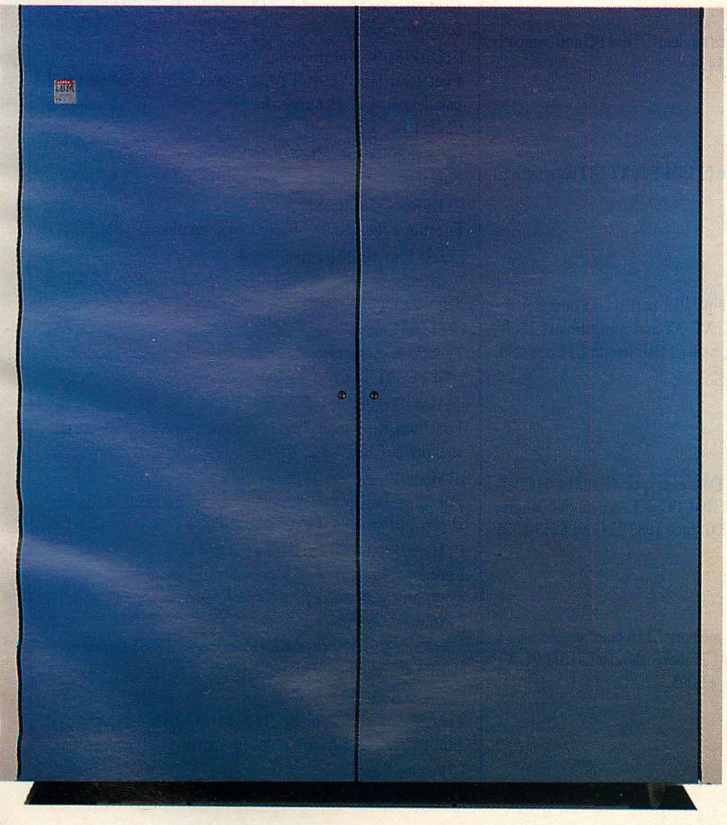
What's more, every board comes with a five-year warranty, toll-free hotline support and a free copy of Microsoft Windows. (–320K. But then, with Above Board, that's no big loss.)

For details, see your favorite computer dealer. Or call us at (800) 538-3373.

And find out why the first thing to go is the last thing to worry about.

intel®

–128K. Everyone will tell you downloading is where it's at. Which is why expanded memory is where you should be.



CIRCLE NO. 216 ON READER SERVICE CARD

☐ **Bisync Exchange 3270**
Functions: 1 serial port(s) ☐ Bisynchronous protocol supported ☐ IBM 3270 BSC terminal/protocol emulation ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $795

☐ **Bisync Exchange 3780**
Functions: 1 serial port(s) ☐ Bisynchronous protocol supported ☐ IBM BSC 3780/2780 RJE terminal/protocol emulation ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $695

☐ **ClusterNet 3270S; 3278**
Functions: 1 serial port(s) ☐ Synchronous mainframe link ☐ IBM 3278/79, 3287, 3274 terminal/protocol emulation ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $1,095

☐ **Coax Exchange**
Functions: Resolution: 720x396; 7 color graphics ☐ IBM 3278/79 terminal/protocol emulation ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,195

☐ **Coax Exchange II**
Functions: 3278/79 operating system emulation ☐ IBM PC, XT, AT and compatibles ☐ Software supplied ☐ Introduced: 1985 ☐ Cost: $995

☐ **SNA Exchange**
Functions: 1 serial port(s) ☐ Synchronous mainframe link ☐ IBM 3274/76/78/79, 3287, 3777-1 RJE terminal/protocol emulation ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $895

INTERACTIVE MICROWARE, INC.

☐ **ADALAB-PC**
Functions: 3 parallel port(s); A/D and/or D/A conversion ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $595-$895

INTERACTIVE STRUCTURES, INC.

☐ **DAIS1**
Functions: 1 parallel port(s); A/D and/or D/A conversion; Process control ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 200,000 since 1978 ☐ Cost: $299-$1,995

INTERCONTINENTAL MICRO SYSTEMS CORP.

☐ **LAN-JR**
Functions: 0-256 kbytes RAM memory ☐ ARCnet; Novell LAN connection ☐ IBM PC jr ☐ Full length ☐ Units sold: 50 since 1985 ☐ Cost: $525-$795

☐ **LAN-PC**
Functions: 0-256 kbytes RAM memory ☐ ARCnet; Novell LAN connection ☐ IBM PC and compatibles ☐ Full length ☐ Units sold: 2,400 since 1984 ☐ Cost: $495

INTERFACE ELECTRONICS, INC. (MI)

☐ **Neptune**
Functions: 64-640 kbytes RAM memory ☐ Resolution: 320/640x200; 16 color graphics ☐ 2 serial port(s); 1 parallel port(s) ☐ IBM PC, AT, XT ☐ Full length ☐ Units sold: 235 since 1983 ☐ Cost: $240-$650

INTERNATIONAL DATACASTING CO.

☐ **IBM PC Interface Board**
Functions: IDC Satellite Network Connection ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986

INTERNATIONAL TECHNOLOGY CORP.

☐ **ITC EGA (TEMPEST)**
Functions: Resolution: 640x350; 64 color graphics ☐ IBM PC ☐ Full length ☐ Units sold: 500 since 1986 ☐ Cost: $752

☐ **ITC Serial/Parallel Adapter (TEMPEST)**
Functions: 1 serial port(s); 1 parallel port(s) ☐ IBM PC AT ☐ Half length ☐ Units sold: 200 since 1985 ☐ Cost: $546

☐ **ITC 128K Expansion (TEMPEST)**
Functions: 128 kbytes RAM memory ☐ IBM PC AT ☐ Half length ☐ Units sold: 200 since 1986 ☐ Cost: $571

☐ **ITC 512K Expansion (TEMPEST)**
Functions: 512 kbytes RAM memory ☐ IBM PC AT ☐ Full length ☐ Units sold: 200 since 1985 ☐ Cost: $1,344

☐ **UTS 20 Emulator Card (TEMPEST)**
Functions: Synchronous mainframe link ☐ UTS-20 terminal/protocol emulation ☐ IBM PC AT ☐ Full length ☐ Units sold: 100 since 1986 ☐ Cost: $350

INTERPHASE CORP.

O.E.M. Products

☐ **Maverick**
Reviewed Jan 1985 p. 58.
Functions: Controller for Hard disk ☐ IBM PC, XT, AT and compatible ☐ Full length ☐ Introduced: 1983 ☐ Cost: $1,295

INTERSTATE VOICE PRODUCTS

(a Figgie International Co.)

☐ **Speech Board**
Functions: 128 kbytes RAM memory ☐ 1 serial port(s) ☐ Voice I/O or synthesis ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,250

IO CORP.

☐ **IO-903**
Functions: 1 serial port(s) ☐ Synchronous mainframe link ☐ IBM PC ☐ Software supplied ☐ Units sold: 12 since 1983 ☐ Cost: $5,795

IOTECH, INC.

☐ **Mac488A**
Functions: 1 serial port(s); IEEE-488 ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $595

ITT CORP.

Data Equipment and Systems Division

☐ **1200 SPC Modem**
Functions: 110; 300; 1,200 bps modem ☐ IBM PC and compatibles ☐ Half length ☐ Cost: $429

I2 INTERFACE, INC.

☐ **I2 Card**
Functions: 20 MB Disk drive ☐ IBM PC, XT ☐ Full length ☐ Cost: $1,095

JAM

☐ **JAMCard**
Functions: 1 serial port(s); 1 parallel port(s) ☐ Controller for Videodisc player ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 300 since 1984 ☐ Cost: $319

JONES FUTUREX, INC.

☐ **Encryptor 300 Series**
Functions: 2 serial port(s) ☐ Data encryption ☐ 3274-51C terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Full length; Half length ☐ Units sold: 3,000 since 1983 ☐ Cost: $245-$995

KAMERMAN LABS

☐ **Excelerator**
Functions: 640 kbytes RAM memory ☐ 16 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC XT ☐ Introduced: 1985 ☐ Cost: $1,095

☐ **SlotMachine**
Functions: 21 MB Disk drive ☐ IBM PC, XT and compatibles ☐ Introduced: 1986 ☐ Cost: $499

☐ **Superflight**
Functions: 128-640 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar; 9.54 MHz 8086 Coprocessor ☐ IBM PC, XT and compatibles ☐ Full length

KAPAK DESIGN

☐ **Novo Drive 1000**
Functions: disk emulation ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Units sold: 100 since 1985 ☐ Cost: $395

KAY ELEMETRICS CORP.

☐ **Visi-Pitch**
Functions: monochrome graphics ☐ Voice I/O or synthesis ☐ IBM PC ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $2,900

KIRSCH TECHNOLOGIES, INC.

☐ **Video Memory Manager**
Functions: Controller for VCR ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 40 since 1985 ☐ Cost: $495-$895

LANGUAGE RESOURCES, INC.

☐ **PC-68K**
Functions: 256-1024 kbytes RAM memory ☐ 68000 Coprocessor ☐ IBM PC XT, AT and compatibles ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,455

LASER DIGITAL, INC.

☐ **Clock Board**
Functions: Clock/calendar ☐ IBM PC, XT ☐ Software supplied

☐ **Color Adapter Board**
Functions: Resolution: 320/640x200; color graphics ☐ IBM PC, XT

☐ **Color/Printer Adapter**
Functions: Resolution: 320/640x200; color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT

☐ **Disk I/O Board**
Functions: 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Controller for Floppy disk ☐ Clock/calendar ☐ IBM PC, XT ☐ Software supplied

☐ **Disk/640K Multifunction Board**
Functions: 0-640 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Controller for Floppy disk ☐ Clock/calendar ☐ IBM PC, XT

☐ **Dual Floppy Board**
Functions: Controller for Floppy disk ☐ IBM PC, XT

☐ **Hi-Res Color Board**
Functions: Resolution: 640x200; color graphics ☐ IBM PC, XT

☐ **I/O Plus Multifunction Board**
Functions: 1 serial port(s) ☐ Clock/calendar ☐ IBM PC, XT ☐ Software supplied

☐ **Mono/Color Board**
Functions: Resolution: 640x200; 640x352; color graphics ☐ IBM PC, XT

☐ **Mono/Printer Board**
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT

☐ **Mono/Printer/Serial Board**
Functions: Resolution: 720x348 monochrome graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT

☐ **Mono/Printer/512K Memory Board**
Functions: 512 kbytes RAM memory ☐ Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT

☐ **Motherboard**
Functions: 256-640 kbytes RAM memory ☐ 8088 Coprocessor ☐ IBM PC, XT

☐ **Network Board**
Functions: 2 serial port(s) ☐ CSMA/CD LAN connection ☐ IBM PC, XT ☐ Software supplied

☐ **Printer Board**
Functions: 1 parallel port(s) ☐ IBM PC, XT

☐ Quad Floppy Board
Functions: Controller for Floppy disk ☐ IBM PC, XT

☐ Serial Board
Functions: 1 serial port(s) ☐ IBM PC, XT

☐ Turbo Motherboard
Functions: 256-640 kbytes RAM memory ☐ 8088 Coprocessor ☐ IBM PC, XT

☐ Turbo-286 Board
Functions: 1024-3072 kbytes RAM memory ☐ 80286 Co-processor ☐ IBM PC ☐ Software supplied

☐ 1.5M Multifunction Board
Functions: 0-1512 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, AT

☐ 1M Memory Board
Functions: 0-1024 kbytes RAM memory ☐ IBM PC, AT

☐ 1200 Baud Modem Board
Functions: 1,200 bps modem ☐ IBM PC, XT, AT ☐ Software supplied

☐ 2M Multifunction Board
Functions: 0-2048 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, AT

☐ 256K Multifunction Board
Functions: 64-256 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Clock/calendar ☐ IBM PC, XT ☐ Software supplied

☐ 3M Multifunction Board
Functions: 0-3072 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, AT

☐ 384K Multifunction Board
Functions: 64-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ IBM PC, XT ☐ Software supplied

☐ 512K Memory Board
Functions: 512 kbytes RAM memory ☐ IBM PC, XT

☐ 512K Multifunction Board
Functions: 64-512 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Clock/calendar ☐ IBM PC, XT ☐ Software supplied

☐ 576K Memory Board
Functions: 576 kbytes RAM memory ☐ IBM PC, XT

LASERMASTER, LTD.

☐ Model 286/M
Functions: 512 kbytes RAM memory ☐ Resolution: 1280x1024 monochrome graphics ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 140 since 1986 ☐ Cost: $3,295

☐ XT/P
Functions: 1500 kbytes RAM memory ☐ Resolution: 300x300 monochrome graphics ☐ Controller for Printer ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 500 since 1985 ☐ Cost: $1,395

LAWSON LABS, INC.

☐ Model 134
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $475

☐ Model 140
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $265

LEADING EDGE HARDWARE PRODUCTS, INC.

☐ L Series 1200B
Functions: 300; 1,200 bps modem ☐ IBM PC and compatibles ☐ Half length

☐ L Series 2400
Functions: 2,400 bps modem ☐ IBM PC, XT, AT ☐ Half length ☐ Cost: $289

LEGACY TECHNOLOGIES, LTD.

☐ CPS
Functions: 1 parallel port(s) ☐ Controller for Printer ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC jr ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $99

☐ Fixed Disk Controller
Functions: Controller for Hard disk ☐ IBM PC jr ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $595

☐ Floppy Disk Controller
Functions: Controller for Floppy disk ☐ IBM PC jr ☐ Software supplied (included in price) ☐ Introduced: 1984 ☐ Cost: $99

L/F TECHNOLOGIES, INC.

☐ Kaleido Card
Functions: Resolution: 640x400; 16 color graphics ☐ IBM PC, AT, XT ☐ Software supplied ☐ Full length ☐ Units sold: 300 since 1985 ☐ Cost: $545

LINEAR SYSTEMS, LTD.

☐ Data Cage
Functions: Data encryption; File security ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 20 since 1985 ☐ Cost: $400

☐ LSBX Mother
Functions: iSBX ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 75 since 1984 ☐ Cost: $255

LOGICOM TECHNOLOGY, INC.

☐ WFC-5150
Functions: Controller for Floppy disk; Hard disk; Mag tape ☐ IBM PC ☐ Software supplied ☐ Full length ☐ Introduced: 1983 ☐ Cost: $200

M. A. SYSTEMS, INC.

☐ AT Optimizer
Functions: 128-5120 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 200 since 1985 ☐ Cost: $2,495

☐ Genie Multifunction
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Controller for Printer ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 12,000 since 1983 ☐ Cost: $289

☐ Mono Magic Card
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ 64K Printer spooler/buffer ☐ IBM PC ☐ Full length ☐ Units sold: 10,000 since 1983 ☐ Cost: $389

☐ PC Peacock
Functions: Resolution: 640/320x200; 16 color graphics ☐ serial port(s) ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 10,000 since 1984 ☐ Cost: $249

☐ Performer-286
Functions: 512-640 kbytes RAM memory ☐ IBM PC, XT ☐ Full length ☐ Units sold: 125 since 1985 ☐ Cost: $1,149

☐ Pro Kit
Functions: 512 kbytes RAM memory ☐ 1 parallel port(s) ☐ IBM PC jr ☐ Full length ☐ Units sold: 1,000 since 1985 ☐ Cost: $350

MACRO SYSTEK, INC.

☐ CL-4
Functions: 640 kbytes RAM memory ☐ 4 serial port(s) ☐ MACRONET LAN connection ☐ Controller for Printer; Floppy disk ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Units sold: 180 since 1985 ☐ Cost: $1,995

MACROTECH INTERNATIONAL CORP.

☐ MSR
Functions: 256-3072 kbytes RAM memory ☐ IBM PC AT ☐ Units sold: 1,000 since 1984 ☐ Cost: $695-$2,095

MAGNUM COMPUTER, INC.
ComX Division

☐ EconoRAM
Functions: 384 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $99

☐ EconoRAM Plus
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $199

MATROX ELECTRONIC SYSTEMS, LTD.

☐ COM-1
Functions: 4 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC ☐ Cost: $2,195

☐ CP-2000
Functions: 512 kbytes RAM memory ☐ 8 serial port(s) ☐ Ethernet LAN connection ☐ IBM PC ☐ Cost: $2,495

☐ FP-2000
Functions: 512 kbytes RAM memory ☐ 4 serial port(s) ☐ Controller for Floppy disk; Hard disk; Mag tape ☐ IBM PC ☐ Introduced: 1985 ☐ Cost: $2,495

☐ PG-1280
Functions: Resolution: 1280x1024; 256 color graphics ☐ IBM PC XT, AT ☐ Software supplied ☐ Full length ☐ Cost: $4,995

☐ PG-640
Functions: Resolution: 640x480; 256 color graphics ☐ IBM PC, XT, AT ☐ Software supplied ☐ Full length ☐ Cost: $2,495

MAXTRON

☐ AT-01
Functions: 640-1024 kbytes RAM memory ☐ Clock/calendar; 80286 motherboard ☐ IBM PC AT, XT ☐ Full length ☐ Cost: $619

☐ AT-05
Functions: Controller for Floppy disk ☐ IBM PC AT ☐ Half length ☐ Cost: $95

☐ AT-06
Functions: 1 serial port(s); 1 parallel port(s) ☐ IBM PC AT ☐ Half length ☐ Cost: $68

☐ AT-10
Functions: 640-2048 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ IBM PC AT ☐ Full length ☐ Cost: $233

☐ HD-05
Functions: Controller for Hard disk ☐ IBM PC ☐ Full length ☐ Cost: $99

☐ XT-07
Functions: monochrome graphics ☐ IBM PC XT ☐ Cost: $55

☐ XT-08
Functions: Resolution: 640/320x200; 4 color graphics ☐ IBM PC XT ☐ Full length ☐ Cost: $59

☐ XT-09
Functions: Resolution: 720x384 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC ☐ Full length ☐ Cost: $75

☐ XT-11
Functions: Controller for Floppy disk ☐ IBM PC XT ☐ Half length ☐ Cost: $36

PC TECHNOLOGIES
704 Airport Blvd.
Ann Arbor, MI 48106
(313) 996-9690

PCT's 286 Express 1/2 slot, 80286 8 MHZ accelerator offers 200%/600% increased PC performance; operator-selectable optional 8088 processing; 100% software compatibility; keyboard selectable cache memory; EGA, EMS, EEMS compatibility-$595.

☐ XT-13A
Functions: Controller for Floppy disk ☐ IBM PC XT, AT ☐ Cost: $124

☐ XT-14
Functions: Resolution: 640x200; 15 color graphics ☐ 1 parallel port(s) ☐ IBM PC XT ☐ Cost: $75

☐ XT-16
Functions: 64-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC XT ☐ Cost: $86

☐ XT-17
Functions: 512 kbytes RAM memory ☐ IBM PC XT ☐ Full length ☐ Cost: $31

MAYNARD ELECTRONICS

☐ Accent Expanded Memory Card
Functions: 0-2048 kbytes RAM memory ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $285-$1,165

☐ Floppy Drive Controller
Functions: Controller for Floppy disk ☐ IBM PC, 3270 and compatibles ☐ Full length ☐ Introduced: 1980 ☐ Cost: $165

☐ Floppy 8-inch Controller
Functions: Controller for Floppy disk ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1983 ☐ Cost: $225

☐ Floppy/Hard Controller
Functions: Controller for Floppy disk; Hard disk ☐ IBM PC, 3270 and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $685

☐ Floppy/Parallel Port
Functions: 1 parallel port(s) ☐ Controller for Floppy disk; Printer ☐ IBM PC, 3270 and compatibles ☐ Full length ☐ Introduced: 1982 ☐ Cost: $255

☐ Floppy/Serial Port
Functions: 1 serial port(s) ☐ Controller for Floppy disk; Printer; Modem ☐ IBM PC, 3270 and compatibles ☐ Full length ☐ Introduced: 1982 ☐ Cost: $295

☐ Hard Controller Card II
Functions: Controller for Hard disk ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $340

☐ MaynStream
Functions: Controller for Mag tape ☐ IBM PC and compatibles ☐ Introduced: 1984 ☐ Cost: $195

☐ OnBoard
Functions: 10-20 MB Disk drive ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $975

☐ SandStar
Functions: Controller for Hard disk ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $495

☐ SandStar Clock/Calendar
Functions: Clock/calendar ☐ IBM PC and compatibles ☐ Introduced: 1982 ☐ Cost: $65

☐ SandStar FDC
Functions: Controller for Floppy disk ☐ Clock/calendar ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1982 ☐ Cost: $265

☐ SandStar Memory
Reviewed Jan 1984 p. 66.
Functions: 0-576 kbytes RAM memory ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1982 ☐ Cost: $122-$497

☐ SandStar Parallel
Functions: 256-640 kbytes RAM memory ☐ 1 parallel port(s) ☐ Controller for Printer ☐ IBM PC ☐ Introduced: 1982 ☐ Cost: $69

☐ SandStar Prototype
Functions: Prototype board ☐ IBM PC ☐ Introduced: 1982 ☐ Cost: $35

☐ SandStar Serial Port
Functions: 256-640 kbytes RAM memory ☐ 1 serial port(s) ☐ IBM PC and compatibles ☐ Introduced: 1982 ☐ Cost: $99

☐ SandStar Series Port Module 3
Functions: 3 serial port(s) ☐ Controller for Printer ☐ IBM PC and compatibles ☐ Introduced: 1982 ☐ Cost: $99

☐ Surprise Turbo Board
Functions: 9.54 MHz Coprocessor ☐ IBM PC XT and compatibles ☐ Cost: $249

MCT

☐ SpeedDemon PC
Functions: 0-1024 kbytes RAM memory ☐ IBM PC, XT and compatibles ☐ Full length ☐ Units sold: 3,000 since 1985 ☐ Cost: $595

MEDIA TECHNOLOGY INTERNATIONAL

☐ HC2045
Functions: 3-1/2", 20 MB Disk drive ☐ IBM PC, XT and compatibles ☐ Introduced: 1985

MEGA-OMEGA SYSTEMS, INC.

☐ Companion Card Plus
Functions: 640-2048 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, AT and compatibles ☐ Cost: $177-$600

☐ ODM
Functions: 256-1024 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984

MEGACALC

☐ The Cruncher
Functions: 1024 kbytes RAM memory ☐ 18 MHz math Coprocessor ☐ IBM PC and compatibles ☐ Full length ☐ Units sold: 50 since 1985 ☐ Cost: $995

METRABYTE CORP.

☐ COM-422
Functions: 1 serial port(s) ☐ IBM PC, XT and compatibles ☐ Half length ☐ Units sold: 100 since 1985 ☐ Cost: $180

☐ COM-485
Functions: 1 serial port(s) ☐ IBM PC, XT and compatibles ☐ Half length ☐ Units sold: 100 since 1985 ☐ Cost: $180

☐ DAC-02
Functions: A/D and/or D/A conversion ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 200 since 1984 ☐ Cost: $260

☐ DASCON-1
Reviewed Sep 1984 p. 30; May 1986 p. 52.
Functions: A/D and/or D/A conversion ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,000 since 1983 ☐ Cost: $495

☐ DASH-16
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 700 since 1984 ☐ Cost: $945

☐ DASH-8
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 1,000 since 1984 ☐ Cost: $395

☐ EXP-16
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Units sold: 500 since 1984 ☐ Cost: $365

☐ IE-488
Functions: 1 parallel port(s); IEEE-488 ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 800 since 1984 ☐ Cost: $395

☐ MBC-488
Functions: 1 parallel port(s); IEEE-488 ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 10 since 1985 ☐ Cost: $275

☐ PI012
Functions: 3 parallel port(s) ☐ IBM PC, XT and compatibles ☐ Software supplied ☐ Half length ☐ Units sold: 1,500 since 1984 ☐ Cost: $109

MICOM/INTERLAN, INC.
(subsidiary of MICOM Systems, Inc.)

☐ NIStar
Functions: StarLAN LAN connection ☐ IBM PC, XT, AT ☐ Half length ☐ Introduced: 1986 ☐ Cost: $325

☐ NI5010
Functions: Ethernet LAN connection ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $550-$650

☐ NP600
Functions: Ethernet; StarLAN; TCP/IP LAN connection ☐ IBM PC AT ☐ Introduced: 1985 ☐ Cost: $1,350

MICRO MAINFRAME

☐ MB-5150
Functions: 0-512 kbytes RAM memory ☐ IBM PC ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 150 since 1985 ☐ Cost: $85-$185

☐ Model 4N1
Functions: 0-512 kbytes RAM memory ☐ 1 serial port(s) ☐ modem ☐ Clock/calendar ☐ IBM PC ☐ Half length ☐ Units sold: 5,000 since 1985 ☐ Cost: $260

☐ PB-5150
Functions: 256 kbytes RAM memory ☐ 1 parallel port(s) ☐ Controller for Printer ☐ IBM PC ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $180

MICRO PLUS, INC.

☐ MP01
Functions: 3278/79 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied ☐ Full length

☐ MP03
Functions: 3274 SNA/BSC terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Full length

☐ MP04
Functions: 3276 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Full length

MICRO R & D, INC.

☐ MW-200
Functions: A/D and/or D/A conversion ☐ IBM PC, XT and compatibles ☐ Software supplied ☐ Half length ☐ Units sold: 250 since 1985 ☐ Cost: $265

MICRO TIMER & CONTROLS, INC.

☐ Bit-Banger
Functions: 4 serial port(s) ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Units sold: 375 since 1985 ☐ Cost: $200

THE MICRO WORKS, INC.

☐ DS88
Functions: Resolution: 512x256 monochrome graphics ☐ IBM PC XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $350

MICROCOMPUTER SYSTEMS, INC.

☐ MSI-VS01
Functions: Voice I/O or synthesis ☐ IBM PC, XT ☐ Software supplied ☐ Half length ☐ Units sold: 300 since 1983 ☐ Cost: $185

MICROFIELD GRAPHICS, INC.

☐ T4
Functions: Resolution: 1024x800; 16 color graphics ☐ IBM PC AT, RT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 400 since 1985 ☐ Cost: $3,200

MICROPHONICS TECHNOLOGY CORP.

☐ Pronounce Speech Input System
Functions: Voice I/O or synthesis ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Cost: $595

MICROSCIENCE INTERNATIONAL CORP.

☐ Easycard
Functions: 3-1/2", 20 MB Disk drive ☐ IBM PC and compatibles ☐ Introduced: 1985 ☐ Cost: $1,095

MICROSOFT CORP.
SEE AD ON PAGES 284/285/286/287/288

☐ PCjr Booster with Mouse
Functions: 128 kbytes RAM memory ☐ IBM PC jr ☐ Software supplied ☐ Introduced: 1984 ☐ Cost: $295-$495

☐ RAMcard
Functions: 64-256 kbytes RAM memory ☐ disk emulation ☐ IBM PC ☐ Cost: $350 (64K)

☐ Systemcard
Functions: 64-256 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Clock/calendar ☐ IBM PC ☐ Software supplied ☐ Cost: $395-$625

MICROSPEED

☐ Fast88
Functions: 6.1 to 7.4 MHz 8088 Coprocessor ☐ IBM PC, XT and compatibles ☐ Units sold: 5,000 since 1985 ☐ Cost: $150-$190

MICROSTAR LABORATORIES, INC.

☐ Data Acquisition Processor
Functions: 128 kbytes RAM memory ☐ 1 serial port(s); A/D and/or D/A conversion ☐ 80186 Coprocessor ☐ IBM PC, AT ☐ Full length ☐ Cost: $2,500

MICROSYNC, INC.
SEE AD ON PAGE 231

☐ dClock
Functions: Clock/calendar ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Units sold: 750 since 1985 ☐ Cost: $60

☐ The Screamer
Functions: Clock/calendar; 8 MHz accelerator ☐ IBM PC, XT and compatibles ☐ Half length ☐ Introduced: 1986 ☐ Cost: $199

MICROTEK, INC. (CA)

☐ GL Clock
Functions: Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 1,000 since 1984 ☐ Cost: $100

☐ GL Color I
Functions: Resolution: 320x200; 24 color graphics ☐ 80-col. card ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $312

☐ GL Memory
Functions: 64-384 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 2,000 since 1984 ☐ Cost: $195-$384

☐ GL Monochrome 80SP
Functions: 64 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ 80-col. card ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 2,000 since 1984 ☐ Cost: $312

☐ GL Multifunction Board
Functions: 64-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $295-$475

☐ GL Parallel
Functions: 1 parallel port(s) ☐ IBM PC, AT ☐ Half length ☐ Units sold: 1,000 since 1984 ☐ Cost: $100

☐ GL Serial
Functions: 1 serial port(s) ☐ IBM PC, AT ☐ Half length ☐ Units sold: 1,000 since 1984 ☐ Cost: $110

☐ GL Serial/Parallel
Functions: 1 serial port(s); 1 parallel port(s) ☐ IBM PC, AT ☐ Half length ☐ Units sold: 1,000 since 1984 ☐ Cost: $195

MICROWAY, INC.
SEE AD ON COVER 3

☐ A2D-160
Functions: A/D and/or D/A conversion ☐ IBM PC, XT ☐ Cost: $1,295

☐ MegaPage AT/ECC
Functions: 1024-3072 kbytes RAM memory ☐ IBM PC AT and compatibles ☐ Cost: $799-$1,295

☐ MegaPage PC
Functions: 2048 kbytes RAM memory ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Cost: $549

☐ Number Smasher/ECM
Functions: 1024 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer; 8086 Coprocessor ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1986 ☐ Cost: $1,199

☐ 286 TurboCache
Functions: disk emulation ☐ Printer spooler/buffer; 7.2 MHz 80286 Coprocessor ☐ IBM PC, XT and compatibles ☐ Cost: $595

☐ 88Turbo
Functions: Clock/calendar; 7.4 MHz V20 Coprocessor ☐ IBM PC, XT ☐ Cost: $149

MICTRO (U.S.A.), INC.

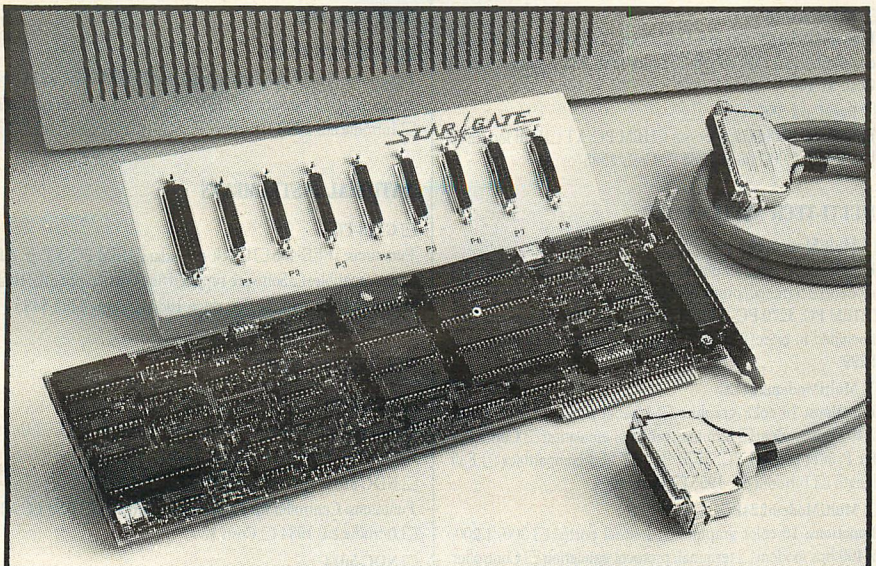
☐ Color Graphic Card
Functions: color graphics ☐ IBM PC, XT ☐ Cost: $125

☐ FDC-500I
Functions: Controller for Floppy disk ☐ IBM PC, XT ☐ Cost: $70

☐ Monochrome Card
Functions: monochrome graphics ☐ IBM PC, XT ☐ Cost: $140

☐ Parallel Printer Card
Functions: Controller for Printer ☐ IBM PC, XT ☐ Cost: $42

☐ Serial Interface Card
Functions: 4 serial port(s); 4 parallel port(s) ☐ IBM PC, XT ☐ Cost: $44



Advanced Communication Link™ Lets Your PC Use All The Brains It's Got

New "smart" 8-channel serial card unloads your IBM PC — or compatible — to give you more computing performance.

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(216) 951-5922

CIRCLE NO. 363 ON READERS SERVICE CARD

MISCO, INC., COMPUTER SUPPLIES

☐ Model 1006
Functions: 300; 1,200 bps modem ☐ Half length ☐ Cost: $449

MODTECH

☐ UltraLink
Functions: 64 kbytes RAM memory ☐ 300-1,200 bps modem ☐ Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 200 since 1984 ☐ Cost: $595

MOTOROLA, INC.
Semiconductor Products Sector

☐ MPCKN2M
Functions: 2048 kbytes RAM memory ☐ MC68000 Coprocessor ☐ IBM PC, XT, AT ☐ Introduced: 1985 ☐ Cost: $4,500

MOUNTAIN COMPUTER, INC.

☐ Drivecard
Functions: 3-1/2", 20 MB Disk drive ☐ IBM PC, XT and compatibles ☐ Full length ☐ Units sold: 25,000 since 1985 ☐ Cost: $995

☐ Drivecard 30
Functions: 3-1/2", 30 MB Disk drive ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Units sold: 5,000 since 1986 ☐ Cost: $1,449

☐ RaceCard 286
Functions: 80286 Coprocessor ☐ IBM PC, XT ☐ Half length ☐ Units sold: 6,000 since 1985 ☐ Cost: $595

MULTI-TECH SYSTEMS, INC.

☐ MultiModemPC3
Functions: 16 color graphics ☐ 1 serial port(s) ☐ 300; 1,200 bps modem ☐ terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC, 3270 PC, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1986 ☐ Cost: $299

☐ MultiModem224EC
Functions: 16 color graphics ☐ 1 serial port(s) ☐ 300; 1,200; 2,400 bps modem ☐ terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC, 3270 PC, AT and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $699

☐ MultiModem224PC
Functions: 16 color graphics ☐ 1 serial port(s) ☐ 300; 1,200; 2,400 bps modem ☐ terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC, 3270 PC, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $649

MULTITECH ELECTRONICS, INC.
SEE AD ON PAGE 71

☐ Floppy Interface
Functions: 1 serial port(s) ☐ Controller for Floppy disk ☐ Clock/calendar ☐ IBM PC, XT ☐ Half length ☐ Units sold: 10,000 since 1985 ☐ Cost: $80

MUX LAB

☐ Access 36
Functions: Synchronous mainframe link ☐ IBM 5251 Model I, II, 5291, 5292 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1986 ☐ Cost: $895

MYLEX CORP.

☐ AGA
Functions: 256 kbytes RAM memory ☐ Resolution: 800x600/560; 640/320x200; 16 color graphics ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $529-$929

☐ Business Master
Functions: 64 kbytes RAM memory ☐ Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,000 since 1984 ☐ Cost: $295

☐ EGA
Functions: 256 kbytes RAM memory ☐ Resolution: 640/320x200; 720x348; 640x350; 16 color graphics ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $495

☐ Envision
Functions: Resolution: 320/640x200; 640x400; 720x348; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 9,000 since 1983 ☐ Cost: $595

☐ MCA Color Adapter
Functions: Resolution: 640/320x200; 4 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 2,000 since 1984 ☐ Cost: $229

☐ MMCG Multifunction Board
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,000 since 1984 ☐ Cost: $495

NATIONAL ADVANCED SYSTEMS, INC.

☐ AS/GATEWAY-SBS
Functions: Synchronous mainframe link ☐ IBM 3270, 3274 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Introduced: 1986

NATIONAL INSTRUMENTS

☐ GPIB-PC
Functions: IEEE-488 ☐ Clock/calendar ☐ IBM PC, XT, jr, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 40,000 since 1983 ☐ Cost: $395-$495

NCL/CENTAN CORP.

☐ NDC-5004
Functions: Controller for Hard disk ☐ IBM PC, XT ☐ Units sold: 2,000 since 1984 ☐ Cost: $200

☐ NDC-5012
Functions: Controller for Floppy disk; Hard disk ☐ IBM PC AT ☐ Introduced: 1984 ☐ Cost: $300

☐ NDC-5014
Functions: 64-256 kbytes RAM memory ☐ Controller for Hard disk ☐ IBM PC, XT

☐ NDC-5020
Functions: 64-256 kbytes RAM memory ☐ Controller for Hard disk ☐ IBM PC, XT ☐ Introduced: 1984 ☐ Cost: $350

☐ NDC-5024
Functions: Controller for Hard disk; Mag tape ☐ IBM PC, XT

☐ NDC-5125
Functions: Controller for Floppy disk; Hard disk ☐ IBM PC AT and compatibles ☐ Units sold: 10,000 since 1986 ☐ Cost: $190

☐ NDC-5126
Functions: Controller for Hard disk ☐ IBM PC AT and compatibles ☐ Units sold: 10,000 since 1986 ☐ Cost: $160

☐ NDC-5127
Functions: Controller for Hard disk ☐ IBM PC, XT and compatibles ☐ Half length ☐ Units sold: 15,000 since 1986 ☐ Cost: $130

NEC AMERICA, INC.
(subsidiary of NEC Corp.)

☐ AR-10
Functions: Prototype board ☐ IBM PC ☐ Cost: $600

☐ SAR-10
Functions: Voice I/O or synthesis ☐ IBM PC ☐ Full length ☐ Cost: $599

☐ SR-10
Functions: Prototype board ☐ IBM PC ☐ Cost: $600

NETWORK SOFTWARE ASSOCIATES, INC.

☐ AdaptModem 4800
Functions: 4,800 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $1,195

NORPAK CORP.

☐ PCD6
Functions: Resolution: 256x210; 16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Introduced: 1985 ☐ Cost: $275

☐ PCX6
Functions: Resolution: 256x210; 16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $340

NOVATION, INC.

☐ SMART CAT PLUS
Reviewed Sep 1985 p. 60.
Functions: 0-300; 1,200 bps modem ☐ terminal/protocol emulation ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $449

☐ 2400 Half Card
Functions: 2,400 bps modem ☐ IBM PC ☐ Half length

NSI LOGIC, INC.

☐ EPIC
Functions: Resolution: 640/320x350/200; 16 color graphics ☐ IBM PC, XT, AT ☐ Full length ☐ Cost: $595

NUCLEUS, INC.

☐ OverThruster
Functions: 7.38 MHz NEC UPD70108D-8 Coprocessor ☐ IBM PC, XT and compatibles ☐ Cost: $95

NUMBER NINE COMPUTER CORP.

☐ Revolution
Functions: 256-1024 kbytes RAM memory ☐ Resolution: 512x512; 1024x1024; 1280x1024; 245 color graphics ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,000 since 1984 ☐ Cost: $1,495-$3,995

OASYS
(division of XEL, Inc.)

☐ DS-32
Functions: 32032 Coprocessor ☐ IBM PC ☐ Introduced: 1986

OMNICOMP GRAPHICS CORP.

☐ AT11
Functions: 1 serial port(s); 1 parallel port(s) ☐ IBM PC, AT ☐ 3/4 length ☐ Introduced: 1986 ☐ Cost: $500

☐ XT11
Functions: 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT, AT ☐ 3/4 length ☐ Introduced: 1984 ☐ Cost: $300

OMTI/SMS

☐ Model 5510
Functions: 2 kbytes RAM memory ☐ Controller for Hard disk ☐ IBM PC ☐ Software supplied (included in price) ☐ Units sold: 15,000 since 1984 ☐ Cost: $155

☐ Model 5710
Functions: 8 kbytes RAM memory ☐ Controller for Hard disk; Mag tape ☐ IBM PC ☐ Software supplied (included in price) ☐ Introduced: 1985 ☐ Cost: $180

☐ Model 8800
Functions: 8 kbytes RAM memory ☐ Controller for Floppy disk; Hard disk; Mag tape ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Units sold: 500 since 1985 ☐ Cost: $250

OPTO 22

☐ RS-422 Card
Functions: 1 serial port(s) ☐ IBM PC, XT, AT, 5531

ORANGE MICRO, INC.

☐ The Chipmunk
Functions: 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied ☐ Half length ☐ Introduced: 1984 ☐ Cost: $99

ORCHID TECHNOLOGY, INC.

☐ **Conquest**
Functions: 2048 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ PCnet LAN connection ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied ☐ Cost: $395

☐ **CramRAM**
Functions: 2048 kbytes RAM memory ☐ Printer spooler/buffer ☐ IBM PC, XT, Portable ☐ Cost: $395

☐ **ECCELL**
Functions: 1024 kbytes RAM memory ☐ Printer spooler/buffer ☐ IBM PC AT ☐ Cost: $595

☐ **PC Turbo-286E**
Functions: 1024 kbytes RAM memory ☐ 80286 Coprocessor ☐ IBM PC, XT, AT ☐ Cost: $1,495

☐ ***PCnet Blossom***
Functions: 64-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ PCnet LAN connection ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied *(included in price)* ☐ *Full length* ☐ Units sold: 10,000 *since 1984* ☐ Cost: $795-$1,295

☐ **PCnet LAN**
Functions: PCnet LAN connection ☐ IBM PC ☐ Full length ☐ Units sold: 50,000 since 1982 ☐ Cost: $495

☐ **PCturbo**
Reviewed Jun 1985 p. 87.
Functions: 128-768 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,000 since 1984 ☐ Cost: $895-$990

☐ **TinyTurbo-286**
Functions: 80286 Coprocessor ☐ IBM PC, XT ☐ Half length ☐ Introduced: 1986 ☐ Cost: $695

☐ **TurboEGA**
Functions: 256 kbytes RAM memory ☐ color graphics ☐ IBM PC ☐ Full length ☐ Introduced: 1986

OVERLAND DATA, INC.
SEE AD ON PAGE 201

☐ **TC-PC; TC-50**
Functions: Controller for Mag tape ☐ IBM PC, AT and compatibles ☐ Full length ☐ Units sold: 500 since 1983 ☐ Cost: $880

☐ **TC-1000**
Functions: 128 kbytes RAM memory ☐ Controller for Cartridge tape ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,500

☐ **TC-500**
Functions: Controller for Mag tape ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,350

PARADISE SYSTEMS, INC.

☐ **AutoSwitch EGA Card**
Functions: Resolution: 720/640x350; 16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Units sold: 10,000 since 1986 ☐ Cost: $599

☐ **Color/Mono Card**
Functions: Resolution: 640/320x200; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 20,000 since 1985 ☐ Cost: $245

☐ **Hi-Res Graphics Card**
Functions: Resolution: 720x350; 640x200 monochrome graphics ☐ 1 parallel port(s) ☐ Light pen interface ☐ IBM PC ☐ Software supplied ☐ Half length ☐ Units sold: 3,000 since 1986 ☐ Cost: $299

☐ **Modular Graphics Card**
Reviewed Mar 1985 p. 21; Jan 1986 p. 70.
Functions: 64-384 kbytes RAM memory ☐ Resolution: 640/320x200; 16 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ disk; operating system emulation ☐ Clock/calendar; Printer spooler/buffer ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 80,000 since 1984 ☐ Cost: $395

☐ **Multi-Display Card**
Functions: 20 kbytes RAM memory ☐ Resolution: 640/320x200; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 20,000 since 1983 ☐ Cost: $279

☐ **Short Color Card**
Functions: Resolution: 640/320x200; 16 color graphics ☐ Light pen interface ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Units sold: 15,000 since 1985 ☐ Cost: $179

☐ **Short Mono Card**
Functions: monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Units sold: 15,000 since 1985 ☐ Cost: $199

PATHWAY DESIGN, INC.

☐ **netPATH**
Functions: Novell; Etherlink; Omninet; PCnet; proNET; LAN/PC; ARC LAN connection; Data encryption; Synchronous mainframe link ☐ 3270 SNA/SDLC terminal/protocol emulation ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $2,595-$4,595

☐ **Pathway Design Encryption**
Functions: Data encryption ☐ IBM PC, XT, AT and compatibles ☐ Introduced: 1985

☐ **pcPATH 5250**
Functions: Data encryption; Synchronous mainframe link ☐ 3270 SNA, BSC; 3770 SNA; 2780/3780 BSC; 5250 terminal/protocol emulation ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 20,000 *since 1984* ☐ Cost: $890

nine track tape users
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The Model TC-50 ½-inch tape subsystem provides a standard medium for transmission of mainframe data base information to PC users, while maintaining mainframe isolation and data integrity. Use ODI subsystems to import data to data base programs like dBase III.



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Put Overland Data's experienced, professional staff to work on your company's data availability problems. Call today!

Overland Data has manufactured high-capacity storage and data interchange products since 1980. All ODI equipment is designed and engineered for long-term reliability. Satisfied customers include Fortune 500 companies, major hospitals and universities, laboratories and research organizations.

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Also Available – XENIX tape subsystems for the IBM AT

CIRCLE NO. 185 ON READER SERVICE CARD

PC PRODUCTS, INC.

☐ Hard Disk Controller
Functions: Controller for Hard disk; Mag tape ☐ Printer spooler/buffer ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ 3/4 length ☐ Introduced: 1984

☐ Rainbow
Functions: 384 kbytes RAM memory ☐ Resolution: 640x200; 16 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Clock/calendar; Printer spooler/buffer ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,000 since 1984 ☐ Cost: $395

PC SOURCE

☐ Flash Card
Functions: 20 MB Disk drive ☐ IBM PC and compatibles ☐ Introduced: 1986 ☐ Cost: $595

PC TECHNOLOGIES, INC.
SEE AD ON PAGE 203

☐ XTender II
Functions: 1024-4096 kbytes RAM memory ☐ 8 serial port(s) ☐ 9,600 bps modem; LAN connection ☐ terminal/protocol emulation ☐ Controller for Terminal ☐ Printer spooler/buffer; 80186/80286 Coprocessor ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 150 since 1985 ☐ Cost: $4,995

☐ 286 Express Card
Functions: 80286 Coprocessor ☐ IBM PC ☐ Introduced: 1986 ☐ Cost: $795

PC WARE, INC.

☐ Clock/Calendar
Functions: Clock/calendar ☐ IBM PC ☐ Cost: $75

☐ Printer Adaptor
Functions: 1 parallel port(s) ☐ IBM PC, XT ☐ Half length ☐ Cost: $90

☐ RAM Board
Functions: 64-256 kbytes RAM memory ☐ IBM PC, XT ☐ Cost: $280-$678

☐ Serial Adaptor
Functions: 1 serial port(s) ☐ IBM PC, XT ☐ Half length ☐ Cost: $95

PC'S LIMITED

☐ Mini I/O
Functions: 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC ☐ 3/4 length ☐ Cost: $99

☐ MonoGraphics Card
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC ☐ Cost: $159

☐ PC Controller Card
Functions: Controller for Floppy disk; Hard disk ☐ IBM PC

☐ Six Function Card
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Cost: $129

PE SYSTEMS, INC.

☐ TED 551
Functions: Data encryption ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $499

PERSONAL COMPUTER GRAPHICS CORP.

☐ *Photon 1024/1024+*
Functions: 512 kbytes RAM memory ☐ Resolution: 1024x1024/768/512; 800x600; 640x480/400; 16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 500 since 1985 ☐ Cost: $998-$2,495

PERSONAL COMPUTER PRODUCTS, INC. (PCPI)

☐ PC/Disk Multi-Card
Functions: 64-640 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Controller for Floppy disk ☐ IBM PC ☐ Full length ☐ Introduced: 1984 ☐ Cost: $395

☐ PC/Multi-Video
Functions: 64 kbytes RAM memory ☐ Resolution: 720x350; 640x200; 16 color graphics ☐ IBM PC ☐ Full length ☐ Introduced: 1984 ☐ Cost: $495

☐ PC/Multicard
Functions: 64-640 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC ☐ Full length ☐ Introduced: 1984 ☐ Cost: $395

PHAZE INFORMATION MACHINES CORP.

☐ Brigitte
Functions: IBM 3270 (coax) terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,000 since 1984 ☐ Cost: $995

PHOENIX COMPUTER PRODUCTS CORP.

☐ Pfaster286
Functions: 1024 kbytes RAM memory ☐ 80286 Coprocessor ☐ IBM PC, XT

PLUS DEVELOPMENT CORP.
(subsidiary of Quantum Corp.)

☐ Hardcard 10
Functions: 3-1/2", 10 MB Disk drive ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $695

☐ Hardcard 20
Functions: 3-1/2", 20 MB Disk drive ☐ IBM PC, XT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $895

PRACTICAL PERIPHERALS, INC.

☐ Practical Modem Card
Functions: 1,200 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Cost: $199

☐ Practical Monochrome Adapter
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $299

☐ Practical Multifunction Card
Functions: 64-512 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ 1,200 bps modem ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $395-$549

PRECISION INTERNATIONAL, INC.

☐ BOA-6150
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC ☐ Full length

☐ BOA-6200
Functions: Resolution: 640x200; color graphics ☐ IBM PC ☐ Full length

☐ BOA-6250
Functions: 2 serial port(s); 1 parallel port(s) ☐ Controller for Floppy disk ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Full length

☐ BOA-6335
Functions: 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Full length

☐ BOA-6350
Functions: 512 kbytes RAM memory ☐ IBM PC ☐ Full length

☐ BOA-6360
Functions: 640 kbytes RAM memory ☐ IBM PC ☐ Half length

PRENTICE CORP.

☐ POPCOM 2400
Functions: 2,400 bps modem ☐ IBM PC and compatibles ☐ Half length ☐ Cost: $595

PRIAM CORP.

☐ DataTower
Functions: Controller for Hard disk; Cartridge tape ☐ IBM PC ☐ Software supplied ☐ Full length ☐ Units sold: 500 since 1984

PRINCETON GRAPHIC SYSTEMS
(division of Intelligent Systems Co.)

☐ ColorView
Functions: 32 kbytes RAM memory ☐ Resolution: 640x200; 16 color graphics ☐ IBM PC ☐ Full length ☐ Introduced: 1984 ☐ Cost: $289

☐ Scan Doubler
Functions: Resolution: 640x400; color graphics ☐ IBM PC ☐ Half length ☐ Introduced: 1983 ☐ Cost: $249

PROFIT SYSTEMS, INC.

☐ ADDRAM
Reviewed Jan 1984 p. 66.
Functions: 64-512 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1982 ☐ Cost: $475

☐ AT Power
Functions: 128-4096 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC AT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $495

☐ Multigraph II
Functions: 128 kbytes RAM memory ☐ Resolution: 320/640x200; 640/720x350; 640x400; 16 color graphics ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $595

PROMETHEUS PRODUCTS, INC.

☐ ProModem 1200B/2
Functions: 0-300; 1,200 bps modem ☐ IBM PC ☐ Half length ☐ Units sold: 12,500 since 1984 ☐ Cost: $299

PROTEON, INC.

☐ P1300
Functions: ProNet-10 LAN connection ☐ terminal/protocol emulation ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Software supplied ☐ Half length ☐ Introduced: 1983 ☐ Cost: $799

PROTOCOL COMPUTERS, INC.

☐ PCI-Link
Functions: Synchronous mainframe link ☐ IBM 3278, 3279, VT-100 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $495

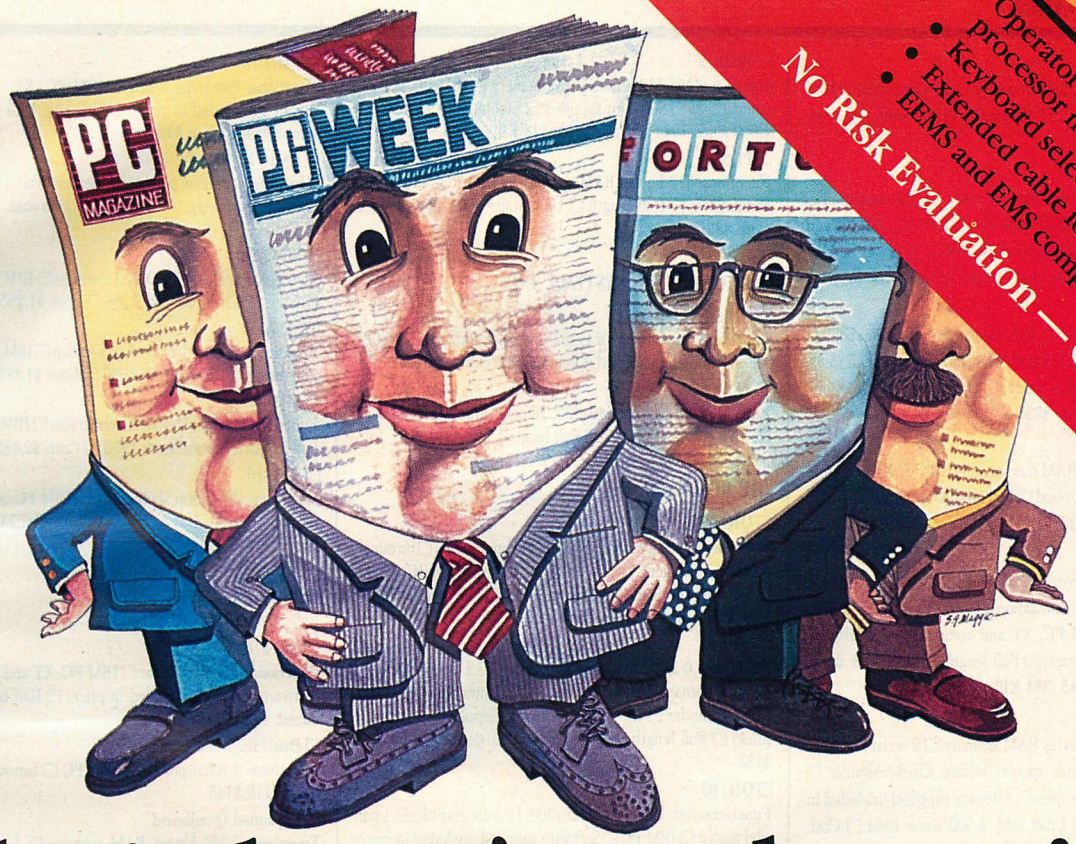
PURE DATA, LTD.

☐ PDIB128 (Bubble)
Reviewed May 1985 p. 123.
Functions: 128 kbytes RAM memory ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 3,000 since 1982 ☐ Cost: $495

☐ PDIB256 (Bubble)
Functions: 256 kbytes RAM memory ☐ disk emulation ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,500 since 1984 ☐ Cost: $995

☐ PDIB512 (Bubble)
Reviewed May 1985 p. 123.
Functions: 512 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 2,500 since 1984 ☐ Cost: $1,695

☐ PDI1152SP
Functions: 1152 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC AT and compatibles ☐ Full length ☐ Units sold: 1,000 since 1985 ☐ Cost: $495



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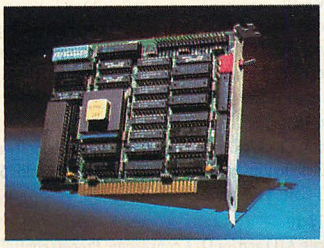
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Dr. Michael Ecker, *Government Computer News*

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Jerry Schneider, *Capital PC Monitor*

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CIRCLE NO. 324 ON READERS SERVICE CARD

☐ PDI1152SS
Functions: 1152 kbytes RAM memory ☐ 2 serial port(s) ☐ IBM PC AT and compatibles ☐ Full length ☐ Units sold: 100 since 1985 ☐ Cost: $595

☐ PDI208SP
Functions: 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 6,000 since 1984 ☐ Cost: $199

☐ PDI208SS
Functions: 2 serial port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 2,500 since 1984 ☐ Cost: $235

☐ PDI256
Functions: 256 kbytes RAM memory ☐ IBM PC, XT and compatibles ☐ Software supplied ☐ Full length ☐ Units sold: 7,000 since 1982 ☐ Cost: $425

☐ PDI456SP
Functions: 256-1024 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 2,000 since 1984 ☐ Cost: $445 (384 KB)

☐ PDI456SS
Functions: 256-1024 kbytes RAM memory ☐ 2 serial port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 8,000 since 1984 ☐ Cost: $475 (384 KB)

☐ PDI464SP
Functions: 256 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,000 since 1983 ☐ Cost: $395 (64 KB)

☐ PDI464SS
Functions: 256 kbytes RAM memory ☐ 2 serial port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,000 since 1983 ☐ Cost: $429 (64 KB)

☐ PDI508
Functions: ARCnet LAN connection ☐ 2K Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Software supplied ☐ 3/4 length ☐ Units sold: 12,000 since 1985 ☐ Cost: $649

☐ PDI508/F1
Functions: ARCnet LAN connection ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ 3/4 length ☐ Introduced: 1986 ☐ Cost: $895

☐ PDI508/F2
Functions: ARCnet LAN connection ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ 3/4 length ☐ Introduced: 1986 ☐ Cost: $995

☐ PDI508EGA
Functions: color graphics ☐ ARCnet LAN connection ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986

☐ PDI508M
Functions: 512 kbytes RAM memory ☐ ARCnet LAN connection ☐ IBM PC, XT, AT and compatibles ☐ Software supplied ☐ Full length ☐ Units sold: 2,000 since 1985 ☐ Cost: $995

☐ PDI508M/F1
Functions: 128-512 kbytes RAM memory ☐ ARCnet LAN connection ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $1,395

☐ PDI508M/F2
Functions: 128-512 kbytes RAM memory ☐ ARCnet LAN connection ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $1,495

☐ PDI512
Functions: 128-512 kbytes RAM memory ☐ IBM PC, XT and compatibles ☐ Software supplied ☐ Full length ☐ Units sold: 1,000 since 1984 ☐ Cost: $325 (128 KB)

☐ PDS512
Functions: 512 kbytes RAM memory ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Units sold: 1,000 since 1985 ☐ Cost: $325

QDP COMPUTER SYSTEMS, INC.

☐ VIVA Gold Card
Functions: Resolution: 1024x1024; 16 color graphics ☐ IBM PC XT, AT and compatibles ☐ Full length ☐ Cost: $2,295

☐ VIVA Silver Card
Functions: Resolution: 640x400; 16 color graphics ☐ IBM PC XT, AT and compatibles ☐ Full length ☐ Cost: $1,295

QIC RESEARCH, INC.

☐ QIC-03
Functions: 1 serial port(s) ☐ 300, 1,200 bps modem ☐ terminal/protocol emulation ☐ Voice I/O or synthesis ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,000 since 1984 ☐ Cost: $199

☐ QIC-05
Functions: 0-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 5,000 since 1984 ☐ Cost: $139

☐ QIC-06
Functions: Resolution: 640/320x200; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC ☐ Software supplied (included in price) ☐ Units sold: 5,000 since 1984

QUA TECH, INC.

☐ ADM12-10
Functions: A/D and/or D/A conversion; Process control ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 400 since 1984 ☐ Cost: $395

☐ ADM12-11
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 100 since 1985 ☐ Cost: $495

☐ ADM8-10
Functions: A/D and/or D/A conversion; Process control ☐ Prototype board ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 500 since 1984 ☐ Cost: $295

☐ CTM-10
Functions: Clock/calendar ☐ IBM PC, AT, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 50 since 1985 ☐ Cost: $195-$250

☐ DM12-10
Functions: A/D and/or D/A conversion; Process control ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 150 since 1984 ☐ Cost: $250

☐ DM8-10
Functions: A/D and/or D/A conversion; Process control ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 100 since 1984 ☐ Cost: $250

☐ DS-101; DS-102
Functions: 2 serial port(s) ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 50 since 1986 ☐ Cost: $295

☐ DS-201
Functions: 2 serial port(s) ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 350 since 1985 ☐ Cost: $345

☐ DSDP-401
Functions: 2 serial port(s); 2 parallel port(s); Process control ☐ Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 100 since 1984 ☐ Cost: $245

☐ MXI-241
Functions: IEEE-488; Process control ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 150 since 1984 ☐ Cost: $495

☐ PMD-10
Functions: Prototype board ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 300 since 1984 ☐ Cost: $30

☐ PXB-721
Functions: 1 parallel port(s); Process control ☐ IBM PC, AT ☐ Software supplied ☐ Full length ☐ Units sold: 700 since 1984 ☐ Cost: $195

☐ SIM2-10
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $1,295

☐ SIM3-10
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $1,895

☐ SIM4-10
Functions: A/D and/or D/A conversion ☐ IBM PC, XT, AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $2,495

☐ WSB-10
Functions: Waveform synthesizer ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 300 since 1984 ☐ Cost: $795

QUADRAM
(subsidiary of Intelligent Systems Corp.)

☐ Clock/Calendar
Functions: Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1982 ☐ Cost: $110

☐ Dual/Single Port Adaptor
Functions: 2 serial port(s) ☐ IBM PC ☐ Introduced: 1981 ☐ Cost: $110-$145

☐ Expanded Quadboard
Functions: 0-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Cost: $595 (384 KB)

☐ Gold Quadboard
Functions: 0-640 kbytes RAM memory ☐ Resolution: 320x200; 16 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $595-$795

☐ IPIC
Functions: 1 parallel port(s) ☐ Controller for Printer ☐ IBM PC, XT and compatibles ☐ Half length ☐ Introduced: 1982 ☐ Cost: $85

☐ Liberty
Functions: 0-2048 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $395-$1,295

☐ Palette Master
Functions: 64 kbytes RAM memory ☐ Resolution: 640/320x200; 256 color graphics ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $895

☐ Quad 512+
Functions: 64-512 kbytes RAM memory ☐ 1 serial port(s) ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $295-$595

☐ Quadboard II
Reviewed Jan 1984 p. 66.
Functions: 0-256 kbytes RAM memory ☐ 2 serial port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $595

☐ Quadcolor
Functions: 32-96 kbytes RAM memory ☐ Resolution: 640/320x200; 16 or 136 color graphics ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $275-$569

☐ QuadEGA+
Functions: Resolution: 720x348; 640x350; 320x200; 16 color graphics ☐ includes Microsoft Windows ☐ IBM PC

☐ QuadEMS+
Functions: 256-2048 kbytes RAM memory ☐ IBM PC XT and compatibles ☐ Introduced: 1986 ☐ Cost: $495

☐ QuadEMS+ I/O
Functions: 256-2048 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC XT and compatibles ☐ Cost: $545

☐ Quadgraph
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $395

☐ Quadlink
Functions: 64 kbytes RAM memory ☐ Resolution: 280x192; 16 color graphics ☐ 300 bps modem ☐ Apple II, II+ terminal/protocol emulation ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $495-$510

☐ QuadMeg-AT
Functions: 128-2048 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $445-$2,875

☐ Quadmodem II
Functions: 110; 300; 1,200; 2,400 bps modem ☐ IBM PC ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $495-$795

☐ Quadnet VI, IX
Functions: LAN connection ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $995-$2,295

☐ QuadPort-AT
Functions: 4 serial port(s); 1 parallel port(s) ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $195

☐ Quadport-XT
Functions: 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC XT ☐ Half length ☐ Introduced: 1986 ☐ Cost: $235

☐ Quadsprint
Functions: 8086, 8088 Coprocessor ☐ IBM PC, XT, Portable and compatibles ☐ Full length ☐ Introduced: 1985 ☐ Cost: $645

☐ Quadvue
Functions: monochrome graphics ☐ 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $345

☐ Quad3278
Functions: IBM 3278 terminal/protocol emulation ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,195

☐ RS-232C Card
Functions: 1-2 serial port(s) ☐ IBM PC, XT and compatibles ☐ Half length ☐ Introduced: 1982 ☐ Cost: $110

☐ Silver Quadboard
Functions: 0-640 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $355-$695

☐ SuperSprint
Functions: 8086 Coprocessor ☐ IBM PC, XT ☐ Introduced: 1986 ☐ Cost: $695

☐ 192 KB RAM Expansion Board
Functions: 192 kbytes RAM memory ☐ IBM PC, XT ☐ Introduced: 1981 ☐ Cost: $275-$425

QUAM CORP.

☐ Qc 1001
Functions: 384 kbytes RAM memory ☐ IBM PC ☐ Full length ☐ Cost: $185

☐ Qc 1009
Functions: 1 serial port(s) ☐ Controller for Floppy disk; Hard disk ☐ IBM PC ☐ Full length ☐ Cost: $239

☐ Qc 1014
Functions: 64-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ 300-1200 bps modem ☐ Clock/calendar ☐ IBM PC, XT ☐ Full length ☐ Units sold: 100 since 1984 ☐ Cost: $544

☐ Qc 1016
Functions: 1 serial port(s) ☐ Controller for Floppy disk ☐ 8088 Coprocessor ☐ IBM PC, XT ☐ Software supplied ☐ Full length ☐ Units sold: 1,000 since 1984 ☐ Cost: $396

☐ Qc 1017
Functions: 128-256 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT ☐ Full length ☐ Units sold: 1,000 since 1984 ☐ Cost: $542

☐ Qc 1018
Functions: LAN connection ☐ IBM PC, XT, AT ☐ Half length ☐ Introduced: 1985 ☐ Cost: $449-$499

☐ Qc 1029
Functions: 256-512 kbytes RAM memory ☐ Resolution: 720x348 monochrome graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT ☐ Full length ☐ Units sold: 100 since 1985 ☐ Cost: $549

☐ Qc 1031
Functions: 1024 kbytes RAM memory ☐ Resolution: 640x350; 16 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC AT ☐ Full length ☐ Cost: $895

☐ Qc 1032
Functions: Clock/calendar; 6 MHz 80286 Coprocessor ☐ IBM PC AT ☐ Full length ☐ Cost: $995-$1,095

☐ Qc 1034
Functions: 512-2560 kbytes RAM memory ☐ IBM PC AT ☐ Full length ☐ Cost: $350-$680

☐ Qc 1035
Functions: Resolution: 720x348; 640x350; 5 color graphics ☐ IBM PC

QUBIE

☐ HARDPACK 20
Functions: 3-1/2", 20 MB Disk drive ☐ IBM PC, Portable and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $549

☐ PC212A/1200; PC212A/1200E
Functions: 1 serial port(s) ☐ 300-1200 bps modem ☐ IBM PC ☐ Software supplied ☐ Cost: $179-$199

RACAL-VADIC
(subsidiary of Racal Electronics, Ltd.)
☐ Maxwell 1200PC
Reviewed Sep 1985 p. 60.
Functions: 0-300; 1,200 bps modem ☐ operating system; terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $295

RACORE COMPUTER PRODUCTS, INC.
☐ Companions 128/384
Functions: 128-384 kbytes RAM memory ☐ Racore-Net LAN connection ☐ IBM PC, XT, AT, jr ☐ Cost: $250-$275

☐ Racore-Net
Functions: 1 serial port(s) ☐ LAN connection ☐ IBM PC, XT, AT ☐ Cost: $250 (per node)

RAYTRONICS
☐ FLEXIMEM
Functions: 256 kbytes RAM memory ☐ IBM PC, XT, jr ☐ Cost: $229

☐ RAMPLUS
Functions: 1024 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Clock/calendar ☐ IBM PC, XT, jr ☐ Software supplied (included in price) ☐ Cost: $389

REAL TIME DEVICES, INC.
☐ GP100
Functions: IEEE-488 ☐ IBM PC, XT ☐ Full length ☐ Units sold: 750 since 1985 ☐ Cost: $299

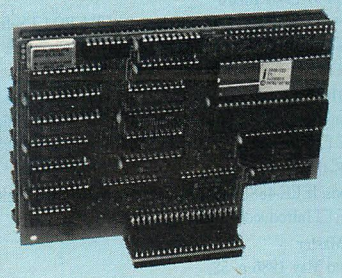
☐ PD100
Functions: Prototype board ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 1,500 since 1983 ☐ Cost: $99

RED RIVER TECHNOLOGY, INC.
☐ ATLas
Functions: 512-1536 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ StarLAN LAN connection ☐ 80286 AT upgrade board ☐ IBM PC, XT, AT ☐ Introduced: 1985 ☐ Cost: $1,295

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RMK SYSTEMS

☐ RM-64
Functions: 64 kbytes RAM memory ☐ Resolution: 256x200; 16 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ Controller for Hard disk ☐ Printer spooler/buffer ☐ IBM PC, XT, AT ☐ Software supplied ☐ Full length ☐ Units sold: 1,000 since 1984 ☐ Cost: $595

SABADIA EXPORT CORP.

☐ eZ CARD
Functions: Prototype board ☐ IBM PC ☐ Full length ☐ Units sold: 1,000 since 1984 ☐ Cost: $90

SANTA CLARA SYSTEMS, INC.

☐ PCnet
Functions: PCnet LAN connection ☐ Controller for Printer; Hard disk ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 20,000 since 1982 ☐ Cost: $495

SANTIAGO DATA SYSTEMS, INC.

☐ Santiago Network-Workforce
Functions: TurboDOS, CP/M, MP/M-86 operating system emulation ☐ Controller for Printer; Hard disk ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied ☐ Half length ☐ Units sold: 100 since 1984 ☐ Cost: $595

SANYO BUSINESS SYSTEMS CORP.

(Computer Division)

☐ MBC 555-2
Functions: Resolution: 320/640x200; 16 color graphics ☐ IBM PC ☐ Software supplied ☐ Full length ☐ Units sold: 30,000 since 1984 ☐ Cost: $199

SCIENTIFIC SOLUTIONS, INC.

☐ Base Board
Functions: 4 parallel port(s) ☐ IBM PC ☐ Full length ☐ Introduced: 1982 ☐ Cost: $345

☐ CMOS Memory Board
Functions: 32 kbytes RAM memory ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1981 ☐ Cost: $450

☐ DADIO
Functions: 1 parallel port(s); A/D and/or D/A conversion ☐ IBM PC ☐ Full length ☐ Introduced: 1982 ☐ Cost: $395

☐ IEEE-488
Functions: IEEE-488 ☐ IBM PC ☐ Software supplied (included in price) ☐ Introduced: 1982 ☐ Cost: $395

☐ Lab Master
Reviewed May 1986 p. 52.
Functions: 3 parallel port(s); A/D and/or D/A conversion ☐ IBM PC ☐ Full length ☐ Introduced: 1981 ☐ Cost: $995

☐ Lab Tender
Functions: 3 parallel port(s); A/D and/or D/A conversion ☐ IBM PC ☐ Full length ☐ Introduced: 1982 ☐ Cost: $495

☐ Protozoa
Functions: Prototype board ☐ IBM PC ☐ Full length ☐ Introduced: 1981 ☐ Cost: $45

SCION CORP.

☐ FAX640
Functions: Resolution: 640/544x480; 4096 color graphics ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $1,595

☐ LIVE640
Functions: 4096 color graphics ☐ IBM PC, XT ☐ Full length ☐ Units sold: 50 since 1984 ☐ Cost: $2,250

☐ PC640
Functions: 256 kbytes RAM memory ☐ Resolution: 640x480; 16 color graphics ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 3,500 since 1983 ☐ Cost: $1,595

SEATTLE COMPUTER PRODUCTS, INC.

☐ RAM+6
Functions: 0-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 6,000 since 1983 ☐ Cost: $225 (384K)

SEATTLE TELECOM & DATA, INC.

SEE AD ON FOLLOWING PAGE

☐ PC-286
Functions: 12.5 MHz 80286 Coprocessor ☐ IBM PC XT ☐ Full length ☐ Cost: $1,295-$2,995

☐ TOP Board
Functions: 2048 kbytes RAM memory ☐ IBM PC XT ☐ Cost: $549-$1,795

SEITZ TECHNICAL PRODUCTS, INC.

☐ Model 6450
Functions: 1 parallel port(s) ☐ Units sold: 500 since 1982 ☐ Cost: $389

SEMIDISK SYSTEMS, INC.

☐ SemiDisk
Functions: 512-2048 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,500 since 1982 ☐ Cost: $495-$995

SIERRA COMPUTER PRODUCTS

☐ XPORT-II
Functions: 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, Portable ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 200 since 1984 ☐ Cost: $249

SIGMA DESIGNS, INC.

SEE AD ON COVER 4

☐ Color 400
Functions: 128 kbytes RAM memory ☐ Resolution: 640x400; 16 color graphics ☐ IBM PC XT, AT, Portable and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 30,000 since 1984 ☐ Cost: $695

☐ MAX I/O
Functions: 2 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT, Portable and compatibles ☐ Half length ☐ Units sold: 1,000 since 1986 ☐ Cost: $149

☐ Maximizer
Functions: 512 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ 9600 bps modem ☐ Controller for Printer ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, Portable ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 30,000 since 1983 ☐ Cost: $249

☐ SDI-384
Functions: 0-512 kbytes RAM memory ☐ Clock/calendar; Printer spooler/buffer ☐ IBM PC XT, Portable ☐ Software supplied (included in price) ☐ Half length; 3/4 length ☐ Units sold: 15,000 since 1984 ☐ Cost: $145

☐ Sigma EGA
Functions: Resolution: 640x350; 640/320x350/200; 16 color graphics ☐ IBM PC, XT ☐ Half length ☐ Cost: $595

SIGMA INFORMATION SYSTEMS, INC.

☐ SDF/PC
Functions: 2 serial port(s); 20mA current loop ☐ 9,600 bps modem ☐ terminal/protocol emulation ☐ IBM PC, AT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 250 since 1984 ☐ Cost: $183

☐ Turbo/XT
Functions: 0-704 kbytes RAM memory ☐ LAN connection ☐ disk; operating system emulation ☐ 8 MHz motherboard ☐ IBM PC XT ☐ Software supplied ☐ Full length ☐ Introduced: 1984 ☐ Cost: $392

☐ TURBO/64
Functions: 0-704 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ 9,600 bps modem; LANLink LAN connection ☐ disk; operating system emulation ☐ Motherboard ☐ IBM PC XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $441

SILICON VALLEY COMPUTER

☐ Gold Card
Functions: 21 MB; 32 MB Disk drive ☐ IBM PC, XT, AT ☐ Cost: $695-$795

SLICER COMPUTERS, INC.

☐ Slicer PC Expansion Board
Functions: 16 kbytes RAM memory ☐ monochrome graphics ☐ IBM PC ☐ Cost: $495

SMARTEK, INC.

☐ Smartek-1
Functions: 1024 kbytes RAM memory ☐ 6, 8 MHz 80286 motherboard ☐ IBM PC AT ☐ Full length ☐ Cost: $895

☐ Smartek-2
Functions: 1024 kbytes RAM memory ☐ 6, 10 MHz 80286 motherboard ☐ IBM PC AT ☐ Full length ☐ Introduced: 1986 ☐ Cost: $1,095

SMT, INC.

☐ Answer
Functions: 128 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ Asynchronous protocol supported ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC AT and compatibles ☐ Software supplied ☐ Full length ☐ Units sold: 500 since 1985 ☐ Cost: $499

☐ IBTECH
Functions: A/D and/or D/A conversion ☐ Clock/calendar ☐ IBM PC, XT ☐ Full length ☐ Units sold: 1,000 since 1984 ☐ Cost: $199

☐ Maximizer XT
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,000 since 1985 ☐ Cost: $285

☐ MonoKrome
Functions: 16 kbytes RAM memory ☐ Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,500 since 1985 ☐ Cost: $289

☐ OCTASYNC
Functions: 8 serial port(s); 1 parallel port(s) ☐ IBM PC AT ☐ Full length ☐ Units sold: 800 since 1985 ☐ Cost: $673

☐ Super Ram
Functions: 64-384 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,900 since 1985 ☐ Cost: $185

☐ Super Ram +
Functions: 64-384 kbytes RAM memory ☐ disk emulation ☐ Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,200 since 1985 ☐ Cost: $215

THE SOFTWARE LINK, INC.

SEE AD ON PAGE 265

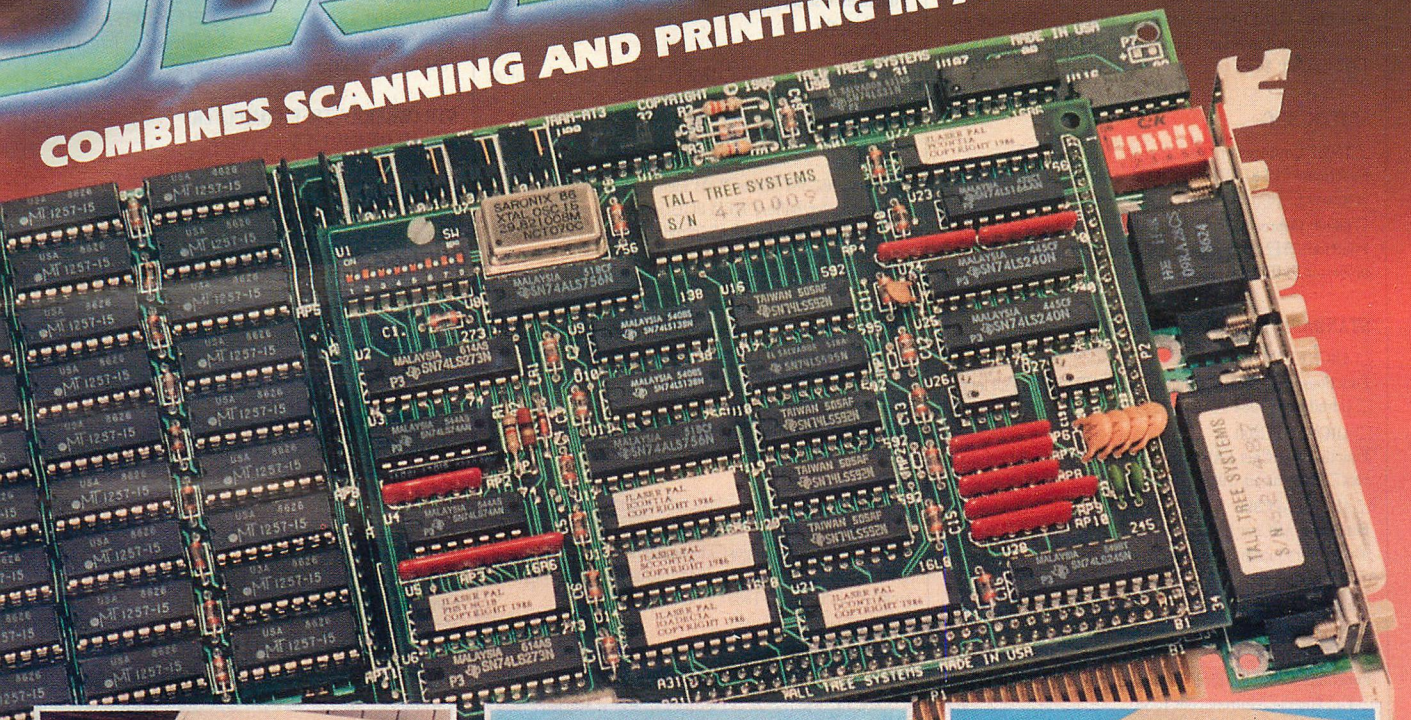
☐ AT Gizmo
Functions: 2048 kbytes RAM memory ☐ IBM PC, AT ☐ Cost: $295

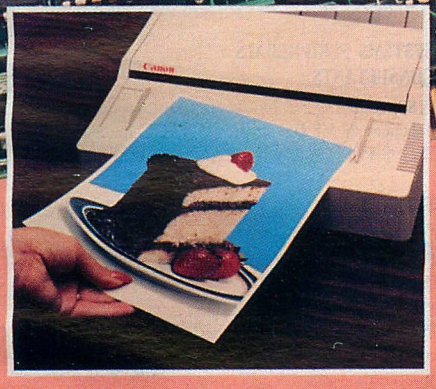
☐ ConnectCom
Functions: 4 or 8 serial port(s) ☐ IBM PC, AT

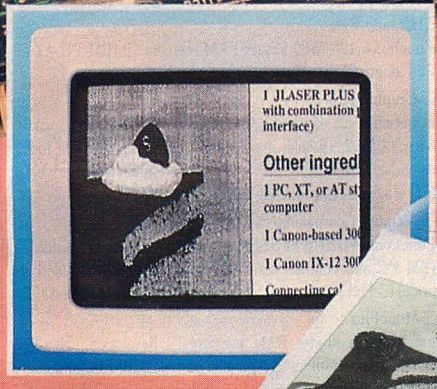
☐ JRAM8
Functions: 1024-2048 kbytes RAM memory ☐ IBM PC, XT, AT and compatibles ☐ Software supplied

JLASER PLUS

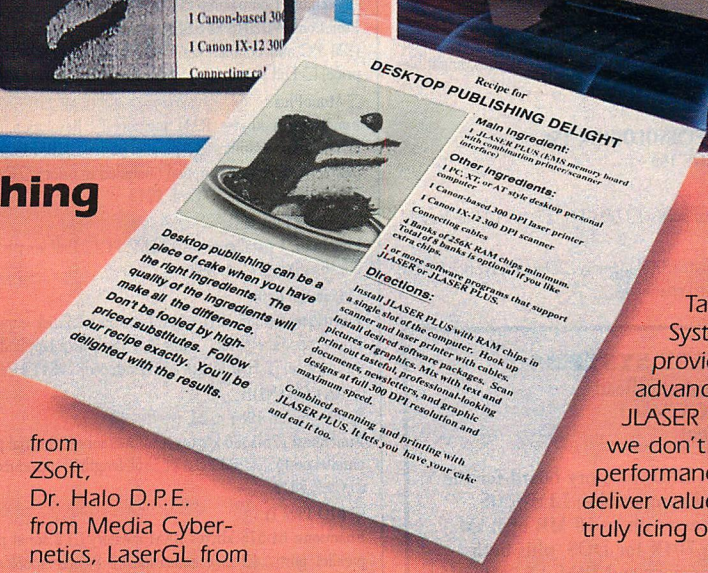
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Supporting JLASER PLUS is a host of software packages, such as PC Paintbrush + from ZSoft, Dr. Halo D.P.E. from Media Cybernetics, LaserGL from Software Express, Ventura Publisher from Xerox, Page Builder from White Sciences, Le Print from Le Baugh Software, Fancy Font and Fancy Word from SoftCraft, Inc., and many more to be announced.

It takes a technological innovator like Tall Tree Systems to provide a major advancement like JLASER PLUS. And we don't stop at performance. We also deliver value, which is truly icing on the cake.

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SPECTRUM HOLOBYTE, INC.

☐ HiCard
Functions: 0-512 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $200

SPEECH, LTD.

☐ Protalker
Functions: Voice I/O or synthesis ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 250 since 1982 ☐ Cost: $349

SRITEK, INC.

☐ 16032 Coprocessor
Functions: 512-8192 kbytes RAM memory ☐ NS16032 Coprocessor ☐ IBM PC, XT

☐ 68000 Coprocessor
Functions: 512-2048 kbytes RAM memory ☐ MC68000 Coprocessor ☐ IBM PC, XT

STANDARD MICROSYSTEMS CORP.

☐ ARCNET-PC100
Functions: ARCnet LAN connection ☐ IBM PC ☐ Full length ☐ Introduced: 1984 ☐ Cost: $595

☐ ARCNET-PC200
Functions: ARCnet LAN connection ☐ IBM PC and compatibles ☐ Introduced: 1986

☐ ARCNET-PC300
Functions: ARCnet LAN connection ☐ IBM PC and compatibles ☐ Introduced: 1986 ☐ Cost: $995

☐ SMC4003-PC
Functions: Controller for Hard disk ☐ IBM PC XT ☐ Full length ☐ Introduced: 1985

☐ SMC4012A-PC
Functions: Controller for Floppy disk; Hard disk ☐ IBM PC XT ☐ Full length ☐ Introduced: 1985

☐ SMC4020-PC
Functions: Controller for Hard disk; Mag tape ☐ IBM PC, XT ☐ Introduced: 1986

☐ SMC4030-PC
Functions: Controller for Floppy disk; Hard disk; Cartridge tape ☐ IBM PC XT ☐ Full length ☐ Introduced: 1985

☐ SMC4112-AT
Functions: Controller for Floppy disk; Hard disk ☐ IBM PC AT ☐ Full length ☐ Introduced: 1986

☐ SMC4202-SA
Functions: Controller for Hard disk ☐ IBM PC and compatibles ☐ Introduced: 1986 ☐ Cost: $195

STAR GATE TECHNOLOGIES, INC.
SEE AD ON PAGE 199

☐ ACL
Functions: 8 serial port(s) ☐ IBM PC, XT, AT ☐ Full length

☐ DEM-1000
Functions: 128 kbytes RAM memory ☐ Data encryption ☐ IBM PC, XT, AT and compatibles

TALL TREE SYSTEMS
1120 San Antonio Road
Palo Alto, CA 94303
415-964-1980

JRAM-AT3 - 2MB memory board for the IBM AT and compatibles. LIM EMS memory accesses up to 16 MB of RAM. Gives up to 704K for DOS, plus both expanded memory and IBM AT "extended memory". Accepts I/O modules and/or the JLASER interface module for Canon-based laser printers. Downward compatibility with other JRAM memory boards. Runs 20% faster than other EMS boards.

☐ MRB-2000
Functions: 512-2048 kbytes RAM memory ☐ IBM PC AT ☐ Full length

☐ OCTACOM
Functions: 4-8 serial port(s) ☐ Controller for Printer; Terminal ☐ IBM PC, XT, AT and compatibles ☐ Software supplied ☐ Full length ☐ Introduced: 1984 ☐ Cost: $420-$520

☐ OC4400
Functions: 4 serial port(s) ☐ IBM PC, XT, AT and compatibles ☐ Full length

☐ OC8000
Functions: 8 serial port(s) ☐ IBM PC, XT, AT and compatibles

STB SYSTEMS, INC.

☐ Big Byte
Functions: 64-384 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1981 ☐ Cost: $249

☐ Chauffeur
Reviewed Jan 1986 p. 70.
Functions: 32 kbytes RAM memory ☐ Resolution: 640x352; 640/320x200 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $395

☐ Chauffeur HT
Functions: Resolution: 720x348; 1024x348; 16 color graphics ☐ 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT, AT ☐ Half length ☐ Cost: $349

☐ Color XVI
Functions: 32 kbytes RAM memory ☐ Resolution: 640/320x200; 16 color graphics ☐ 1 parallel port(s) ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $275

☐ EGAplus
Functions: Resolution: 320/640x350; 16 color graphics ☐ 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Introduced: 1985

☐ Grande Byte
Functions: 128-2560 kbytes RAM memory ☐ IBM PC AT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $395

☐ Graphix Plus II
Functions: 32 kbytes RAM memory ☐ Resolution: 320/640x200/352; 16 color graphics ☐ 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $395

☐ Memory Companion/PC
Functions: 64-2048 kbytes RAM memory ☐ disk emulation ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $349-$395

☐ MonoPlus
Functions: 4 kbytes RAM memory ☐ Resolution: 640x352 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $249

☐ Printer Plus II
Functions: 1 parallel port(s) ☐ IBM PC ☐ Half length ☐ Introduced: 1982 ☐ Cost: $95

☐ Quarter Byte
Functions: 64-256 kbytes RAM memory ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $179

☐ RIO GRANDE
Reviewed Jun 1985 p. 23.
Functions: 128-1536 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ IBM PC AT ☐ Full length ☐ Introduced: 1984 ☐ Cost: $549

☐ RIO Plus II
Functions: 64-576 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $349

☐ Serial Plus
Functions: 1 serial port(s) ☐ IBM PC and compatibles ☐ Half length ☐ Introduced: 1984 ☐ Cost: $115

☐ Super I/O II
Functions: 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1984 ☐ Cost: $195

☐ Super RES 400
Functions: 64 kbytes RAM memory ☐ Resolution: 640/320x200/400; 4-16 color graphics ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $595

STRAWBERRY TREE COMPUTERS
SEE AD ON PAGE 230

☐ ACPC-12; ACPC-14; ACPC-16
Reviewed May 1986 p. 52.
Functions: 12 to 16-bit Data Acquisition Card ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $590-$2,190

STREET ELECTRONICS CORP.

☐ ECHO-PC
Functions: Voice I/O or synthesis ☐ IBM PC ☐ Cost: $199

SYSCOM, INC.

☐ Mail Call
Functions: 32 kbytes RAM memory ☐ 2 serial port(s) ☐ Clock/calendar ☐ IBM PC ☐ Cost: $995

SYSGEN, INC. (CA)

☐ Series 5500
Functions: Controller for Mag tape ☐ IBM PC, XT, AT and compatibles ☐ Half length

☐ Sysgen SC6000
Functions: Controller for Hard disk ☐ IBM PC, XT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $250

SYSTEMS PERIPHERALS CONSULTANTS

☐ Scorecard
Functions: 22 MB Disk drive ☐ IBM PC ☐ Introduced: 1986 ☐ Cost: $895

SYTEK, INC.

☐ 6110 Network Adapter
Functions: PC Network LAN connection ☐ IBM PC, XT, AT ☐ Full length

☐ 6120 Enhanced Network Adapter
Functions: 64 kbytes RAM memory ☐ Sytek *System 6000 LAN* connection ☐ IBM PC and compatibles ☐ Full length

TALL TREE SYSTEMS
SEE AD ON PAGES 207/209

☐ Jdiskette
Functions: Controller for Floppy disk ☐ IBM PC, XT and compatibles

☐ JRAM-2
Reviewed Mar 1985 p. 92.
Functions: 512-2048 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Cost: $219

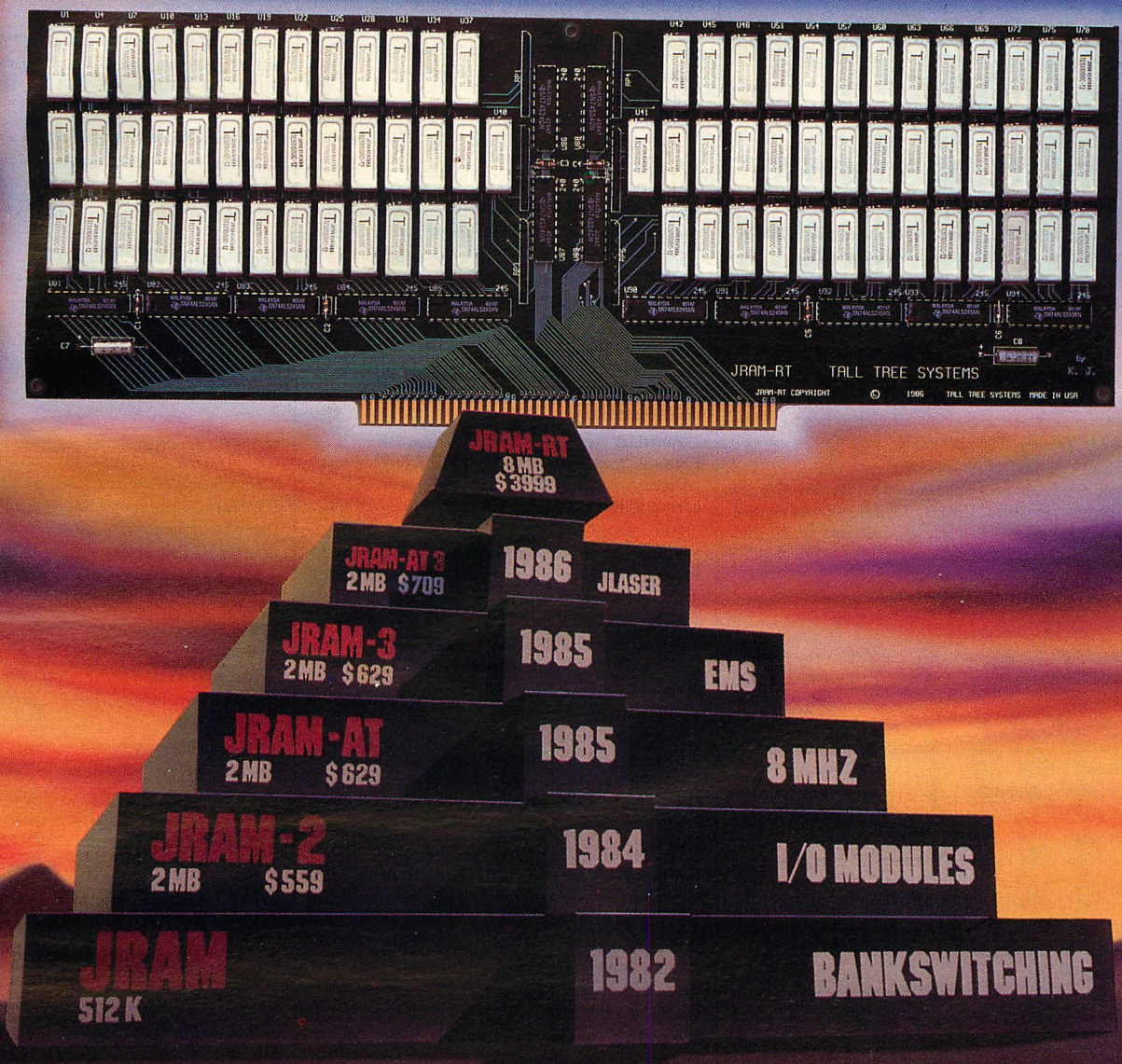
☐ JRAM-3
Functions: 0-2048 kbytes RAM memory ☐ IBM PC ☐ Cost: $295-$1,090

TANDON CORP.

☐ Diskcard 21
Functions: 3-1/2", 21 MB Disk drive ☐ IBM PC, XT and compatibles ☐ Introduced: 1985

TANGENT TECHNOLOGIES

☐ PC MacBridge
Functions: AppleTalk LAN connection ☐ IBM PC and compatibles ☐ Introduced: 1985 ☐ Cost: $495



TALL TREE SYSTEMS.
A Technological Innovator.
Always a Step Ahead!

For true industry leadership, look no further than Tall Tree Systems.

We have a history of being first.

We were the first to introduce bankswitching. The first with two megabyte memory boards. The first with I/O modularity in a single slot. The first with 8 MHz speed capabilities. The only maker of single command EMS boards. The first with a laser printer solution — JLASER — that allows you to do full-page graphics and multiple type fonts on any Canon® or Ricoh® laser engine.

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CIRCLE NO. 197 ON READER SERVICE CARD

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THE TARI GROUP

☐ Tari Soft Expansion Board
Functions: Allows up to 16 additional terminals, printers or modems ☐ IBM PC AT

TAT GRAPHICS GROUP, INC.

☐ Galaxy EGX2
Functions: Resolution: 800x600; 16 color graphics ☐ IBM PC and compatibles ☐ Cost: $1,195

☐ Galaxy GA1024
Functions: Resolution: 1024x1024; 16 color graphics ☐ IBM PC and compatibles ☐ Introduced: 1986 ☐ Cost: $2,295

TECHLAND SYSTEMS, INC.
(subsidiary of York Research Corp.)

☐ Blue Lynx 3270
Functions: Synchronous mainframe link ☐ IBM 3276 SNA/SDLC, BSC terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 10,000 since 1983 ☐ Cost: $795

☐ Blue Lynx 5251/12
Functions: Synchronous mainframe link ☐ IBM 5251/12 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 16,000 since 1982 ☐ Cost: $745

TECMAR, INC.

☐ BaseBoard
Functions: 4 parallel port(s); A/D and/or D/A conversion ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1982 ☐ Cost: $345

☐ Bosun XT
Functions: 1 serial port(s); 1 parallel port(s) ☐ Controller for Printer ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1983 ☐ Cost: $195

☐ Captain
Functions: 0-384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Controller for Printer ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $259-$589

☐ DADIO
Functions: 3 parallel port(s); A/D and/or D/A conversion ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1982 ☐ Cost: $395

☐ Dynamic Memory
Functions: 0-256 kbytes RAM memory ☐ Printer spooler/buffer ☐ IBM PC, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1981 ☐ Cost: $289-$489

☐ Graphics Master
Reviewed Jan 1984 p. 32.
Functions: Resolution: 640x400; 720x700; 16 color graphics ☐ IBM PC, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $695

☐ Graphics Tender
Functions: Resolution: 320/640x200; 4 color graphics ☐ 1 parallel port(s) ☐ Controller for Printer ☐ IBM PC, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $299

☐ IEEE-488
Functions: IEEE-488 ☐ IBM PC, AT and compatibles ☐ Software supplied ☐ 3/4 length ☐ Introduced: 1982 ☐ Cost: $395

☐ Lab Master
Reviewed Mar 1984 p. 104.
Functions: 3 parallel port(s); A/D and/or D/A conversion ☐ IBM PC, AT and compatibles ☐ Full length ☐ Introduced: 1981 ☐ Cost: $995

☐ Lab Tender
Functions: 3 parallel port(s); A/D and/or D/A conversion ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1982 ☐ Cost: $495

☐ Maestro AT
Functions: 0-2560 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Controller for Printer ☐ Printer spooler/buffer ☐ IBM PC AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $529-$1,095

☐ MegaFunction
Functions: 1280 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC XT ☐ Full length ☐ Cost: $895

☐ MG1000
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $295

☐ M500
Functions: 1 parallel port(s) ☐ IBM PC, XT and compatibles ☐ Full length ☐ Cost: $195

☐ Phonegate 2400
Functions: 110, 300, 600, 1200, 2400 bps modem ☐ Voice I/O or synthesis ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Introduced: 1985 ☐ Cost: $789

☐ PowerLink Plus
Functions: Synchronous mainframe link ☐ 3278/79 terminal/protocol emulation ☐ IBM PC ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $1,145

☐ Scribe Master
Functions: 3 serial port(s); 2 parallel port(s) ☐ Controller for Printer ☐ IBM PC and compatibles ☐ Full length ☐ Introduced: 1982 ☐ Cost: $495

☐ Scribe Tender
Functions: 2 serial port(s); 1 parallel port(s) ☐ IBM PC, AT and compatibles ☐ Full length ☐ Introduced: 1981 ☐ Cost: $195

☐ Shared Device Controller
Functions: Controller for Printer ☐ IBM PC ☐ Introduced: 1982 ☐ Cost: $395-$525

☐ Speech Master
Functions: Voice I/O or synthesis ☐ IBM PC, AT and compatibles ☐ Software supplied ☐ Full length ☐ Introduced: 1981 ☐ Cost: $395

☐ Time Master
Functions: Clock/calendar ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ 3/4 length ☐ Introduced: 1981 ☐ Cost: $135

☐ Voice Recognition
Functions: Voice I/O or synthesis ☐ IBM PC, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $995

☐ Wave Plus
Functions: 64-384 kbytes RAM memory ☐ Printer spooler/buffer ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1985 ☐ Cost: $395

☐ Wave XT
Functions: 64-256 kbytes RAM memory ☐ Printer spooler/buffer ☐ IBM PC XT, AT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1983 ☐ Cost: $299-$499

☐ 1stMate
Reviewed Jan 1984 p. 66.
Functions: 0-256 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Controller for Printer ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1982 ☐ Cost: $319-$589

☐ 2ndMate
Functions: 2 serial port(s); 2 parallel port(s) ☐ Controller for Printer ☐ Clock/calendar ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $295

☐ 640 Plus
Functions: 256-2048 kbytes RAM memory ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $475-$1,395

TELEBIT CORP.

☐ TrailBlazer
Functions: 10K bps modem ☐ IBM PC ☐ Cost: $1,995

THESYS MEMORY PRODUCTS CORP.

☐ Fastcard III
Functions: 2048 kbytes RAM memory ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 15,000 since 1985 ☐ Cost: $299

☐ Fastcard IV
Functions: 2048 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 9,000 since 1985 ☐ Cost: $450

3COM CORP.

☐ EtherLink
Reviewed Jan 1984 p. 54.
Functions: Ethernet LAN connection ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1982 ☐ Cost: $650

TIGERMARK CORP.

☐ Tiger Bubble PC
Functions: 256 kbytes RAM memory ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,100 since 1983 ☐ Cost: $1,400

☐ Tiger Port
Functions: 1 parallel port(s) ☐ operating system emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC ☐ Half length ☐ Units sold: 2,450 since 1984 ☐ Cost: $45

☐ Tiger Serial PC
Functions: 1 serial port(s) ☐ IBM PC ☐ Units sold: 3,000 since 1984 ☐ Cost: $65

☐ Tigerpaq Plus
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,500 since 1984 ☐ Cost: $350

TITAN TECHNOLOGIES, INC.

☐ Accelerator PC
Functions: 128-640 kbytes RAM memory ☐ disk emulation ☐ 8086 Coprocessor ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $995-$1,655

☐ Titan Multifunction
Functions: 64-576 kbytes RAM memory ☐ 2 serial port(s); 1 parallel port(s); SASI/SCSI ☐ Controller for Hard disk ☐ Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1983 ☐ Cost: $556-$1,196

☐ Titan P1
Functions: 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1983 ☐ Cost: $199

☐ Titan S1
Functions: 1 serial port(s) ☐ Clock/calendar ☐ IBM PC, XT ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1983 ☐ Cost: $229

TLM SYSTEMS

☐ Bluestreak
Functions: 64-256 kbytes RAM memory ☐ 2 serial port(s) ☐ IBM PC, XT, AT

☐ 68010/68000 Coprocessor
Functions: 1024-2048 kbytes RAM memory ☐ 8 serial port(s); 2 parallel port(s) ☐ IBM PC, XT, AT ☐ Cost: $1,295

TPS SYSTEMS

☐ A/D to RS-232C Converter
Functions: 1 serial port(s); A/D and/or D/A conversion ☐ IBM PC ☐ Introduced: 1984 ☐ Cost: $90

TRADE VENTURES INTERNATIONAL, INC.

☐ Elkey
Functions: Data encryption ☐ Clock/calendar ☐ IBM PC XT, AT ☐ Half length ☐ Cost: $259-$279

☐ MegaRAM
Functions: 1024-2048 kbytes RAM memory ☐ Clock/calendar ☐ IBM PC, XT and compatibles ☐ Cost: $1,065-$1,395

☐ MEM-AT+
Functions: 128-3072 kbytes RAM memory ☐ IBM PC AT and compatibles ☐ Cost: $595-$1,495

☐ MultiPort
Functions: 2 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Cost: $269

☐ MultiRAM
Functions: 512 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Half length ☐ Cost: $269-$309

☐ Multi3 AT
Functions: 128-384 kbytes RAM memory ☐ IBM PC AT and compatibles ☐ Cost: $845-$995

TRAILRIDGE RESEARCH, INC.
SEE AD ON PAGE 205

☐ X3 Accelerator
Functions: 128-640 kbytes RAM memory ☐ Printer spooler/buffer; 10 MHz Coprocessor ☐ IBM PC and compatibles ☐ Introduced: 1986 ☐ Cost: $449

TRANSENSORY DEVICES, INC.

☐ Sensorbus
Functions: A/D and/or D/A conversion; Process control ☐ IBM PC ☐ Software supplied (included in price) ☐ Introduced: 1983 ☐ Cost: $180

TSENG LABORATORIES, INC.

☐ ColorPAK
Functions: 64-512 kbytes RAM memory ☐ Resolution: 640/320x200; 640x400; 2-16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $580

☐ UltraPAK
Reviewed Jan 1986 p. 70.
Functions: Resolution: 720x348 monochrome graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ terminal/protocol emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $649

☐ UltraPAK/AGE
Functions: 0-512 kbytes RAM memory ☐ Resolution: 720x348 monochrome graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ terminal/protocol emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $799

☐ UltraPAK/S
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ terminal/protocol emulation ☐ Printer spooler/buffer ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1984 ☐ Cost: $499

TURNER HALL PUBLISHING
(division of Symantec Corp.)

☐ Turner Hall Card
Functions: 256 kbytes RAM memory ☐ Clock/calendar ☐ IBM PC, XT, Portable and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 10,000 since 1985 ☐ Cost: $100

TW CASPER CORP.

☐ CP-6030
Functions: Resolution: 640/320x200; color graphics ☐ IBM PC ☐ Full length

☐ CP-6040
Functions: Resolution: 720x348 monochrome graphics ☐ IBM PC and compatibles ☐ Full length

☐ CP-6050C
Functions: 384 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC and compatibles ☐ Full length

☐ CP-6120D
Functions: 1 serial port(s); 1 parallel port(s) ☐ IBM PC and compatibles ☐ Full length

☐ CP-6250A
Functions: 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC and compatibles ☐ Half length

☐ CP-6260A
Functions: 1 serial port(s); 1 parallel port(s) ☐ Controller for Floppy disk ☐ Clock/calendar ☐ IBM PC and compatibles ☐ Full length

TWIX, INC.

☐ Controller Card
Functions: Controller for Floppy disk; Hard disk; Cartridge tape ☐ IBM PC XT ☐ Full length ☐ Cost: $395

☐ RAM Card
Functions: 1024 kbytes RAM memory ☐ IBM PC XT ☐ Half length ☐ Cost: $169

☐ Twix CPU Board
Functions: 512 kbytes RAM memory ☐ Clock/calendar; 8088 motherboard ☐ IBM PC XT ☐ Cost: $395

ULTRAGRAPHICS CORP.

☐ Ultragraph 800
Functions: Resolution: 800x400; 16 color graphics ☐ IBM PC ☐ Introduced: 1986 ☐ Cost: $995

ULTRASOFT, INC.

☐ US MultiUser Board
Functions: 4 serial port(s); 3 parallel port(s) ☐ IBM PC and compatibles ☐ Cost: $895

UNGERMANN-BASS, INC.

☐ NIC
Functions: Ethernet; Net/One LAN connection ☐ terminal/protocol emulation ☐ IBM PC, XT ☐ Software supplied ☐ Full length ☐ Introduced: 1984

☐ NIU
Functions: 8-128 kbytes RAM memory ☐ Ethernet; Net/One LAN connection ☐ terminal/protocol emulation ☐ IBM PC, XT ☐ Software supplied ☐ Full length ☐ Introduced: 1984

UNIQ FOUR, INC.

☐ Multifunction Card
Functions: 512 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ 300; 1,200 bps modem ☐ IBM PC ☐ Full length ☐ Cost: $499

☐ UFI Internal Security Modem
Functions: 300; 1,200 bps modem ☐ IBM PC ☐ Half length ☐ Cost: $449

U.S. DESIGN CORP.

☐ Model 1450
Functions: Controller for Printer; Hard disk; Mag tape ☐ IBM PC AT, RT ☐ Introduced: 1986

UNITRON COMPUTER USA, INC.

☐ U-2905
Functions: 640 kbytes RAM memory ☐ Clock/calendar; 8 MHz 8088-2 motherboard ☐ IBM PC XT ☐ Full length ☐ Cost: $135

☐ U-2951
Functions: Resolution: 320/640x200; color graphics ☐ IBM PC XT

☐ U-2951A
Functions: Resolution: 320/640x200; color graphics ☐ 1 parallel port(s) ☐ IBM PC XT

☐ U-2951B
Functions: Resolution: 320/640x200; color graphics ☐ 1 parallel port(s) ☐ IBM PC XT

☐ U-2952
Functions: 256 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC XT

☐ U-2953
Functions: Controller for Floppy disk ☐ IBM PC XT

☐ U-2956
Functions: 512 kbytes RAM memory ☐ IBM PC XT

☐ U-2959
Functions: Resolution: 720x348 monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC XT

☐ U-2960
Functions: 384 kbytes RAM memory ☐ 1 serial port(s) ☐ Clock/calendar ☐ IBM PC XT

☐ U-2961
Functions: 1 parallel port(s) ☐ IBM PC XT

☐ U-2962
Functions: 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC XT

☐ U-2964
Functions: 1 serial port(s); 1 parallel port(s) ☐ Controller for Floppy disk ☐ Clock/calendar ☐ IBM PC XT

☐ U-2965
Functions: 1 serial port(s) ☐ IBM PC XT

☐ U-2966
Functions: Controller for Hard disk ☐ IBM PC XT

☐ U-3901
Functions: 1024 kbytes RAM memory ☐ Clock/calendar; 8 MHz 80286 motherboard ☐ IBM PC AT ☐ Full length ☐ Cost: $650

UNIVATION

☐ PC Turbocharger
Functions: 640 kbytes RAM memory ☐ Printer spooler/buffer; 8086 Coprocessor ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 3,000 since 1984 ☐ Cost: $695

UNIVERSAL DATA SYSTEMS, INC.
(subsidiary of Motorola, Inc.)

☐ Sync-Up 201C
Functions: 2,400 bps modem ☐ IBM PC ☐ Full length ☐ Introduced: 1985 ☐ Cost: $685

☐ Sync-Up 208A/B
Functions: 4,800 bps modem ☐ IBM PC ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,200

US ROBOTICS, INC.

☐ Microlink 1200
Functions: 300; 1,200 bps modem ☐ IBM PC ☐ Software supplied ☐ Half length ☐ Introduced: 1984 ☐ Cost: $499

☐ Microlink 2400
Functions: 300-2400 bps modem ☐ IBM PC, XT, AT and compatibles ☐ Introduced: 1985 ☐ Cost: $699

VIDEO-7 INC.
550 Sycamore Drive
Milipitas, CA 95035
(408) 943-0101
Telex: 62864091

VEGA Deluxe supports current standards - MGA, CGA, HGC and EGA PLUS offers 752 x 410 and 640 x 480 resolutions with a NEC MultiSync or compatible monitor. Includes high resolution drivers for Microsoft Windows, and AutoSelect which automatically selects the right mode for emulation so you don't have change once your program is running.

VECTRIX CORP.

☐ Pepe
Functions: 512-1512 kbytes RAM memory ☐ Resolution: 1024x1024; 16; 256; 4096 color graphics ☐ IBM PC XT, AT and compatibles ☐ Software supplied ☐ Full length ☐ Units sold: 400 since 1985 ☐ Cost: $2,495-$4,495

☐ VX/PC Board Set
Reviewed Jul 1985 p. 56.
Functions: 384 kbytes RAM memory ☐ Resolution: 672x480; 512 color graphics ☐ Controller for Printer ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 200 since 1984 ☐ Cost: $2,495-$2,995

VEN-TEL, INC.

☐ Half Card 24
Reviewed Sep 1985 p. 60.
Functions: 300-2,400 bps modem ☐ IBM PC, XT, AT, 3270, Portable and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ Introduced: 1983 ☐ Cost: $695

☐ PC Modem 1200
Functions: 300; 1,200 bps modem ☐ IBM PC, XT, AT, 3270 and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 10,000 since 1983 ☐ Cost: $499

VERBATIM CORP.
(subsidiary of Eastman Kodak Co.)

☐ CPU Card
Functions: 80286 Coprocessor ☐ IBM PC, XT ☐ Half length ☐ Introduced: 1986

☐ DataBank 20MB
Functions: 20 MB Disk drive ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986

☐ DataBank 30MB
Functions: 30 MB Disk drive ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986

VERTICOM, INC.

☐ M-16
Functions: 40-112 kbytes RAM memory ☐ Resolution: 640x480; 16 color graphics ☐ 1 serial port(s) ☐ modem ☐ DEC VT-100 terminal/protocol emulation ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $1,695

☐ M-256
Functions: 40-176 kbytes RAM memory ☐ Resolution: 640x480; 256 color graphics ☐ modem ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1985 ☐ Cost: $2,195

☐ VG-07(A)
Functions: Resolution: 640x480; 16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Cost: $3,695

☐ VG-09(A)
Functions: Resolution: 640x480; 16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Cost: $3,795

VICTOR TECHNOLOGIES, INC.

☐ SpeedPac 286
Functions: 80286 Coprocessor ☐ IBM PC, XT, AT ☐ Half length ☐ Cost: $595

VIDEO-7, INC.
SEE AD ON PAGE 213

☐ MonoGraphic Adapter
Functions: Resolution: 720x348 monochrome graphics ☐ 64K Printer spooler/buffer ☐ IBM PC ☐ Cost: $299

☐ Vega
Reviewed Apr 1986 p. 33.
Functions: Resolution: 640x350; 320x200; 720x348; 16 color graphics ☐ IBM PC ☐ Half length ☐ Cost: $599

VMI - VERMONT MICROSYSTEMS, INC.

☐ VM-8820
Functions: Resolution: 640x480; 256 color graphics ☐ IBM PC AT ☐ Units sold: 3,000 since 1985 ☐ Cost: $1,995-$2,495

☐ VM-8825
Functions: Resolution: 1024x800; 256 color graphics ☐ IBM PC AT, RT ☐ Full length ☐ Units sold: 500 since 1986 ☐ Cost: $2,995-$3,495

VON LEIVENDYKE ENTERPRISES

☐ Graphics ConvertaBuffer II
Functions: 64 kbytes RAM memory ☐ color graphics ☐ 1 parallel port(s) ☐ 64K Printer spooler/buffer ☐ IBM PC, XT, AT, jr, Portable ☐ Full length ☐ Introduced: 1984 ☐ Cost: $299

VOTAN

☐ Votan Voice Card
Functions: 256-640 kbytes RAM memory ☐ Voice I/O or synthesis ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 7,500 since 1984 ☐ Cost: $1,200

VUTEK SYSTEMS, INC.

☐ Color Card
Functions: Resolution: 320/640x200; 16 color graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 5,000 since 1983 ☐ Cost: $179-$259

☐ Economono
Functions: monochrome graphics ☐ 1 parallel port(s) ☐ IBM PC, XT, AT ☐ Full length ☐ Units sold: 2,000 since 1985 ☐ Cost: $159-$179

☐ Enhanced Graphics Adapter
Functions: 256 kbytes RAM memory ☐ Resolution: 640x350; 16 color graphics ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 500 since 1986 ☐ Cost: $580

☐ Enigma
Functions: Security system board ☐ IBM PC, XT, AT ☐ 3/4 length

☐ Enix.SYS
Functions: Data encryption ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 1,000 since 1985 ☐ Cost: $325

☐ Monochrome Graphics
Functions: Resolution: 720x348 monochrome graphics ☐ 1 serial port(s); 1 parallel port(s) ☐ Clock/calendar ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 2,500 since 1984 ☐ Cost: $310-$375

☐ Multi Function Card
Functions: 512 kbytes RAM memory ☐ 1 serial port(s); 1 parallel port(s) ☐ disk emulation ☐ Printer spooler/buffer; Clock/calendar ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 1,000 since 1985 ☐ Cost: $249

☐ Short Slot
Functions: 0-384 kbytes RAM memory ☐ IBM PC, XT, AT ☐ Half length ☐ Units sold: 5,000 since 1985 ☐ Cost: $129-$269

VYNET CORP.

☐ V100 Series Voice Response
Functions: Voice I/O or synthesis ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Introduced: 1982 ☐ Cost: $495-$2,195

WANGTEK, INC.

☐ PC-36
Functions: Controller for Cartridge tape ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 30,000 since 1984 ☐ Cost: $1,540

WARP SPEED COMPUTER PRODUCTS, INC.

☐ Phaser One
Functions: Single pixel converter card ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Cost: $100

☐ Phaser 720
Functions: Resolution: 640x350/200; 720x400; 16 color graphics ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Cost: $750

WESTERN DATACOM

☐ 424 Error Free
Functions: 300-2400 bps modem ☐ IBM PC ☐ Units sold: 3,000 since 1986 ☐ Cost: $645

WESTERN DIGITAL CORP.

☐ DialCard 25
Functions: X.25 Dial Service LAN connection ☐ IBM PC, XT, AT and compatibles ☐ Full length ☐ Introduced: 1986 ☐ Cost: $595

☐ Filecard
Functions: 3-1/2", 10 MB Disk drive ☐ IBM PC, XT, AT and compatibles ☐ Introduced: 1985 ☐ Cost: $795

☐ WD1002-WX2
Functions: Controller for Hard disk ☐ IBM PC XT ☐ Introduced: 1983 ☐ Cost: $295

☐ WD1002-27X
Functions: Controller for Hard disk ☐ IBM PC XT ☐ Half length ☐ Introduced: 1986

☐ WD1002A-WX1
Functions: Controller for Hard disk ☐ IBM PC XT and compatibles ☐ Half length ☐ Introduced: 1986

☐ WD4025
Functions: Data encryption; Synchronous mainframe link; X.25 Communication board ☐ IBM PC XT and compatibles ☐ Cost: $895

☐ WD8000S
Functions: StarLAN LAN connection ☐ IBM PC, XT, AT and compatibles ☐ Introduced: 1986

☐ WD8000SH
Functions: StarLAN LAN connection ☐ IBM PC, XT, AT and compatibles ☐ Introduced: 1986

WESTERN TELECOMPUTING CORP.

☐ ICIS PC
Functions: A/D and/or D/A conversion ☐ Cost: $895-$5,000

WGE INTERNATIONAL, LTD.

☐ Pico Power Modem I
Functions: 300; 1,200 bps modem ☐ IBM PC, XT, AT ☐ Half length ☐ Cost: $230

WINTERHALTER, INC.

☐ DataTalker/PC
Functions: 2 serial port(s) ☐ IBM 3270, 2780/3780 terminal/protocol emulation ☐ Controller for Printer ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Half length ☐ Units sold: 500 since 1984 ☐ Cost: $695

☐ DataTalker/PC+
Functions: 64 kbytes RAM memory ☐ 2 serial port(s) ☐ IBM 3270, 2780/3780 BSC; X.25 terminal/protocol emulation ☐ Controller for Printer ☐ Z80A Coprocessor ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 1,000 since 1984 ☐ Cost: $1,095

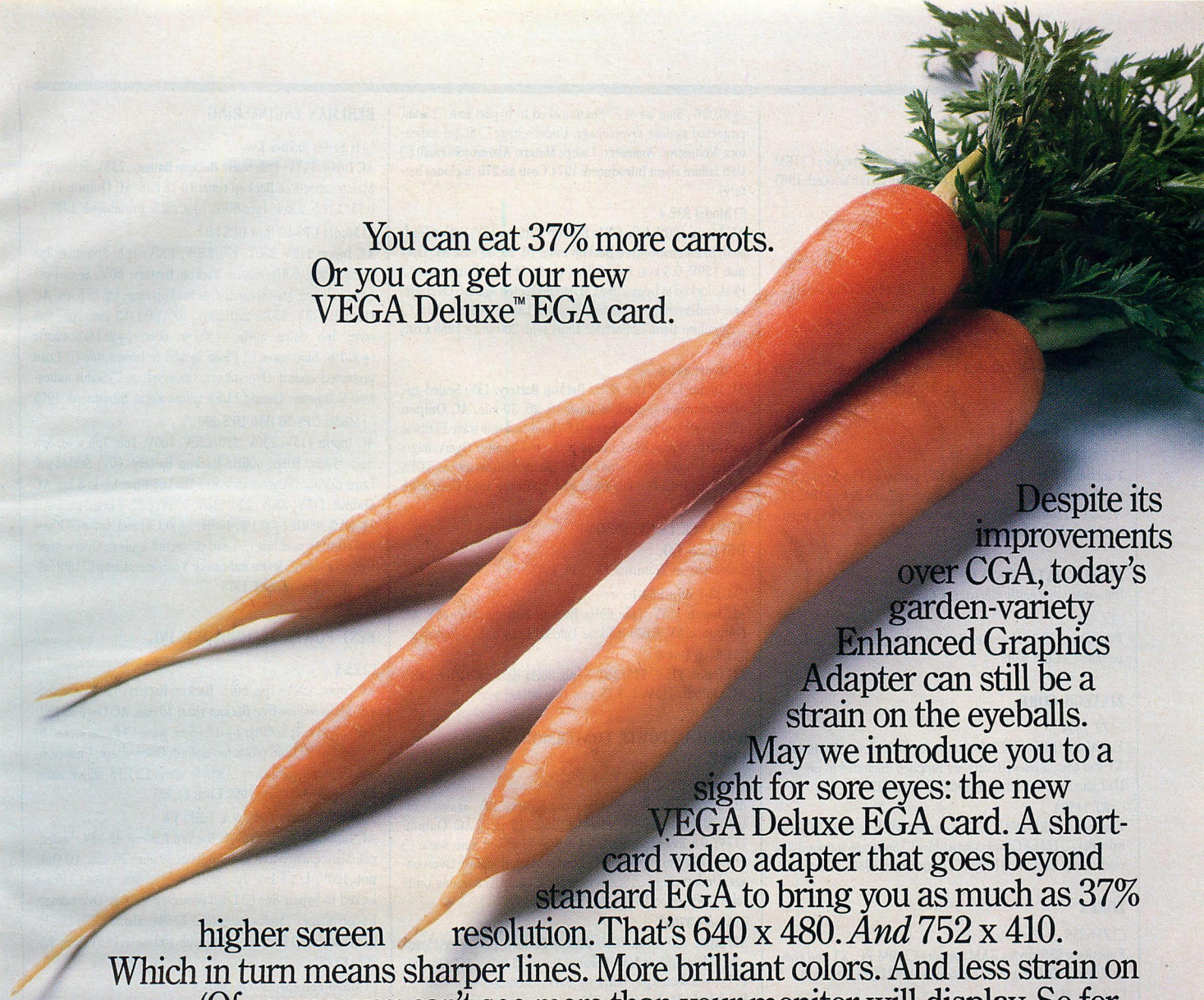
☐ Secure
Functions: Data encryption ☐ IBM PC, XT, AT and compatibles ☐ Half length ☐ Units sold: 1,000 since 1985 ☐ Cost: $325-$475

WOLFDATA, INC.

☐ WD-212-II
Functions: 1 serial port(s) ☐ 300; 1,200 bps modem ☐ IBM PC ☐ Full length ☐ Introduced: 1983 ☐ Cost: $400

☐ WD-212-LAPB
Functions: 1 serial port(s) ☐ 300; 1,200 bps modem ☐ IBM PC, AT and compatibles ☐ Full length ☐ Introduced: 1984 ☐ Cost: $550

☐ WD-212-X.25
Functions: 1 serial port(s) ☐ 300; 1,200 bps modem ☐ IBM PC, AT and compatibles ☐ Full length ☐ Introduced: 1983 ☐ Cost: $550



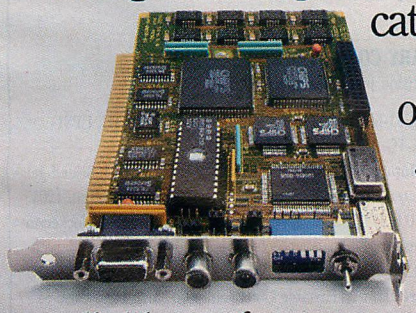
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CIRCLE NO. 204 ON READER SERVICE CARD

WYSE TECHNOLOGY

☐ WY-610
Functions: Resolution: 640/320x200; 16 color graphics ☐ IBM PC, AT, XT and compatibles ☐ Full length ☐ **Introduced:** 1985 ☐ **Cost:** $200

XEBEC

☐ S1210A
Functions: Controller for Hard disk ☐ IBM PC ☐ Full length ☐ Units sold: 100,000 since 1983 ☐ **Cost:** $195

☐ S1220
Functions: Controller for Floppy disk; Hard disk ☐ IBM PC ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 50,000 since 1984 ☐ **Cost:** $195

XYPLEX, INC.

☐ IBM PC Controller Board
Functions: 1 serial port(s); 1 parallel port(s) ☐ The Xyplex System LAN connection; Synchronous mainframe link ☐ IBM PC, XT, AT ☐ Software supplied (included in price) ☐ Full length ☐ Units sold: 100 since 1984 ☐ **Cost:** $700

ZENITH DATA SYSTEMS
(subsidiary of Zenith Electronics Corp.)

☐ Z-405
Functions: 128-1536 kbytes RAM memory ☐ IBM PC and compatibles ☐ **Cost:** $399

ZIATECH CORP.

☐ ZT 1444
Functions: IEEE-488 ☐ Controller for GPIB device ☐ IBM PC, XT and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ **Introduced:** 1983 ☐ **Cost:** $375

☐ ZT 1488A
Functions: IEEE-488 ☐ Controller for GPIB device ☐ Clock/calendar ☐ IBM PC and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ **Introduced:** 1983 ☐ **Cost:** $485

ZOBEX

☐ ZM-256
Functions: 256 kbytes RAM memory ☐ IBM PC, XT and compatibles ☐ Half length ☐ **Introduced:** 1983 ☐ **Cost:** $100

☐ Zobex 2SP
Functions: 2 serial port(s) ☐ IBM PC, XT ☐ Half length ☐ Introduced: 1984 ☐ **Cost:** $165

☐ ZX-2
Functions: Controller for Hard disk ☐ IBM PC, jr and compatibles ☐ Software supplied (included in price) ☐ Half length ☐ **Introduced:** 1985 ☐ **Cost:** $245

☐ ZXAT-4
Functions: Controller for Floppy disk; Hard disk ☐ IBM PC AT ☐ Full length ☐ **Introduced:** 1986 ☐ **Cost:** $245

ZOOM TELEPHONICS, INC.

☐ ZOOM/MODEM PC 1200
Functions: 8 kbytes RAM memory ☐ 300-1,200 bps modem ☐ Clock/calendar ☐ IBM PC, XT, AT and compatibles ☐ Software supplied (included in price) ☐ Full length ☐ **Introduced:** 1985 ☐ **Cost:** $299-$399

☐ ZOOM/MODEM PC 2400
Functions: 300; 1,200; 2,400 bps modem ☐ IBM PC and compatibles ☐ **Introduced:** 1986 ☐ **Cost:** $499-$549

POWER EQUIPMENT

UNINTERRUPTIBLE POWER SUPPLIES

ABACUS CONTROLS, INC.

☐ Model 923-4
AC Input: 120V, 240V; 1ph; 50Hz; 60Hz; 400Hz **Backup Battery:** 120V; Sealed lead-calcium; Maintenance-free **Backup time:** 10, 20, 30 min. **AC Output:** 120V; 2 kva; 1ph; 60Hz (±)0.05%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Meters; Alarms (optional) ☐ UPS failure alarm **Introduced:** 1974 **Cost:** $6,270 (includes battery)

☐ Model 932-4
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 10, 20, 30 min. **AC Output:** 120V; 0.3 kva; 1ph; 60Hz (±)1%; Modified sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Units sold:** 200 since 1985 **Cost:** $595

☐ Model 942-4
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed-gel; Maintenance-free **Backup time:** 10, 20, 30 min. **AC Output:** 120V; 0.45 kva; 1ph; 60Hz (±)1%; Modified sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Units sold:** 200 since 1985 **Cost:** $795

ADVANCE CONVERSION DEVICES CO.
(subsidiary of Transistor Devices, Inc.)

☐ U13-1 thru U54-1
AC Input: 115V; 1ph; 60Hz **Backup Battery:** 24V, 48V **AC Output:** 115V; 0.036-0.5 kva; 1ph; 60Hz (+)2% ☐ Portable

☐ U64-1; U64-2
AC Input: 115V, 115/230V; 1ph; 60Hz **Backup Battery:** 48V **AC Output:** 115V; 1, 1.75 kva; 1ph; 60Hz (+)2%

AMERICAN POWER CONVERSION CORP.

☐ Model 300PC+
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 15 min. **AC Output:** 117V; 0.3 kva; 1ph; 60Hz (±)0.6%; Modified sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp ☐ Portable **Units sold:** 1,500 since 1984 **Cost:** $595

☐ Model 330XT
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 15 min. **AC Output:** 117V; 0.3 kva; 1ph; 60Hz (±)0.6%; Modified sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp ☐ Portable **Units sold:** 100 since 1985 **Cost:** $649

☐ Model 750RM
AC Input: 90-130V; 1ph; 60Hz **Backup Battery:** 24V; Sealed lead-acid; Maintenance-free **Backup time:** 20 min. **AC Output:** 117V; 0.75 kva; 1ph; 50Hz; 60Hz; Sine wave ☐ Status indicators: Lamp **Units sold:** 100 since 1984 **Cost:** $3,000

☐ Model 750XT+
AC Input: 90-130V; 1ph; 60Hz **Backup Battery:** 24V; Sealed lead-acid; Maintenance-free **Backup time:** 15 min. **AC Output:** 24V; 0.75 kva; 1ph; 60Hz (±)0.1%; Low distortion sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp ☐ Portable **Units sold:** 150 since 1984 **Cost:** $2,500

APPLIED RESEARCH AND TECHNOLOGY, INC.

☐ Co-Pilot 140
AC Input: 110/125V, 210/240V; 1ph; 50Hz; 60Hz **Backup Battery:** 12V; Sealed dry-cell; Maintenance-free **Backup time:** 2 hrs. **AC Output:** 110/125V, 210/240V; 0.2 kva; 50Hz (±)10%; 60Hz (±)10% ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Lamp ☐ Portable **Introduced:** 1986 **Cost:** $995

BEHLMAN ENGINEERING

☐ H Series (0.75-2 Kva)
AC Input: 117V; 1ph; 60Hz **Backup Battery:** 288V; Sealed-gel; Maintenance-free **Backup time:** 10-18 min. **AC Output:** 117V; 0.75, 1, 1.5, 2 kva; 1ph; 60Hz (±)0.02% **Introduced:** 1986

☐ Model UPS-10 thru UPS-50
AC Input: 115V, 230V, 220/230V, 100V; 1ph; 3ph wye; 3ph delta; 50Hz; 60Hz; 400Hz **Backup Battery:** 60V; Sealed-gel; Lead-calcium; Maintenance-free **Backup time:** Up to 8 hrs. **AC Output:** 115V, 230V, 220/230V, 100V; 0.1-0.5 kva; 1ph; 3ph wye; 3ph delta; 50Hz (±)0.1%; 60Hz (±)0.1%; 400Hz (±)0.1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Lamp ☐ UPS failure alarm **Introduced:** 1975

☐ Model UPS-50 thru UPS-200
AC Input: 115V, 230V, 220/230V, 100V; 1ph; 3ph wye; 3ph delta; 50Hz; 60Hz; 400Hz **Backup Battery:** 60V; Sealed-gel; Lead-calcium; Maintenance-free **Backup time:** Up to 8 hrs. **AC Output:** 115V, 230V, 220/230V, 100V; 0.75-2 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1%; 400Hz (±)0.1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Lamp ☐ UPS failure alarm **Introduced:** 1975

BEST POWER TECHNOLOGY, INC.

☐ F2-5
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 42-58V; Sealed-gel; Maintenance-free **Backup time:** 30 min. **AC Output:** 120/240V; 2 kva; 1ph; 60Hz (±)1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Audible alarm ☐ UPS failure alarm **Units sold:** 600 since 1982 **Cost:** $4,995

☐ Micro-Ferrups 1,000 VA, 1,500 VA
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 42-58V; Sealed-gel; Maintenance-free **Backup time:** 30 min.; 20 min. **AC Output:** 120V; 1, 1.5 kva; 1ph; 60Hz (±)1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Audible alarm; LEDs ☐ UPS failure alarm ☐ Portable **Units sold:** 100 since 1985 **Cost:** $2,-995; $3,995

☐ Micro-Ferrups 250VA, 500VA
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed-gel; Maintenance-free **Backup time:** 50 min.; 20 min. **AC Output:** 120V; 0.25, 0.5 kva; 1ph; 60Hz (±)1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Audible alarm; LED ☐ UPS failure alarm ☐ Portable **Units sold:** 1,000 since 1985 **Cost:** $1,095

CLARY CORP.
Precision Instruments Division

☐ UPS1-60VA-1G; UPS1-800VA-1G; UPS1-1K-1G; UPS1-1.2K-1G; UPS1-1.5K-1G
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 96V; Sealed-gel; Maintenance-free **Backup time:** 10-20 min. **AC Output:** 120V; 0.6, 0.8, 1, 1.2, 1.5 kva; 1ph; 60Hz (±)0.25% ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Units sold:** 500 since 1985 **Cost:** $2,-195-$4,500 **Battery:** $495

☐ UPS1-750VA-1A; UPS1-1.25k-1A; UPS1-750VA-1M; UPS1-1.25k-1M
AC Input: 115V; 1ph; 60Hz **Backup Battery:** 84V; Sealed-gel; Lead-calcium; Maintenance-free **Backup time:** User-specified **AC Output:** 115V; 0.75, 1.25 kva; 1ph; 60Hz (±)0.25%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Lamp; Audible alarm ☐ UPS failure alarm **Units sold:** 500 since 1976 **Cost:** $2,985-$4,500 **Battery:** $850

COMPUTER POWER, INC.

☐ Computersave Mark II
AC Input: 120V; 1ph; 50Hz; 60Hz **Backup Battery:** 48V; Sealed-gel; Maintenance-free **Backup time:** 12-15 min. **AC Output:** 120V; 0.75, 1, 1.5 kva; 1ph; 50Hz (±)0.05%; 60Hz (±)0.05%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Units sold:** 2,768 since 1983 **Cost:** $1,892 (0.75 Kva); $2,062 (1 Kva); $2,410 (1.5 Kva) (includes battery)

☐ Defender UPS (0.2-0.4 Kva)
AC Input: 120V, 220V, 230V, 240V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V, 36V; Sealed-gel; Maintenance-free **Backup time:** 10-30 min. **AC Output:** 120V; 0.2, 0.4 kva; 1ph; 50Hz (±)0.05%; 60Hz (±)0.05% **Introduced:** 1984

☐ Hi-Rel UPS (0.5 Kva)
AC Input: 120V, 208V, 240V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Lead-acid; Nickel-cadmium; Sealed-gel; Maintenance-free **Backup time:** 1.5 hrs. **AC Output:** 120V, 208V, 240V; 0.5 kva; 1ph; 50Hz (±)0.05%; 60Hz (±)0.05%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm ☐ UPS failure alarm **Units sold:** 152 since 1975 **Cost:** $3,685

☐ Hi-Rel UPS (1-1.5 Kva)
AC Input: 120V, 208V, 240V; 1ph; 50Hz; 60Hz **Backup Battery:** 24-48V; Lead-acid; Nickel-cadmium; Sealed-gel **Backup time:** 1.5 hrs. **AC Output:** 120V, 208V, 240V; 1, 1.5 kva; 1ph; 50Hz (±)0.05%; 60Hz (±)0.05% ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm ☐ UPS failure alarm **Units sold:** 319 since 1975 **Cost:** $3,905 (1 Kva); $4,400 (1.5 Kva)

☐ Series 36 (0.75-1.5 Kva)
AC Input: 120V; 1ph; 50Hz; 60Hz **Backup Battery:** 36V, 48V; Sealed-gel; Maintenance-free **Backup time:** 40-70 min. **AC Output:** 120V; 0.75, 1, 1.5 kva; 1ph; 50Hz (±)0.05%; 60Hz (±)0.05%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm ☐ UPS failure alarm **Units sold:** 1,796 since 1982 **Cost:** $2,400 (0.75 Kva); $2,600 (1 Kva); $3,895 (1.5 Kva)

DELTRON, INC.
Central Division

☐ PU1000N; PU1500N
AC Input: 120V, 220V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V, 48V; Sealed lead-calcium; Maintenance-free **Backup time:** 10-35 min. **AC Output:** 120V, 220V; 1, 1.5 kva; 1ph; 50Hz; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm ☐ UPS failure alarm **Introduced:** 1986 **Cost:** $2,650; $4,200

☐ PU500N
AC Input: 120V, 220V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V, 48V; Sealed lead-calcium; Maintenance-free **Backup time:** 10-35 min. **AC Output:** 120V, 220V; 0.5 kva; 1ph; 50Hz; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm ☐ UPS failure alarm **Introduced:** 1986 **Cost:** $2,100

DISPLEX, INC.
(subsidiary of North Hills Electronics, Inc.)

☐ PSU-7401
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 96V; Sealed-gel; Maintenance-free **Backup time:** 8 min. **AC Output:** 120V; 1 kva; 1ph; 60Hz (±)0.05%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Introduced:** 1983 **Cost:** $3,140 (includes battery)

☐ PSU-7502
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 48V; Sealed-gel; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V; 0.5 kva; 1ph; 60Hz (±)0.05% **Introduced:** 1982 **Cost:** $2,100 (includes battery)

☐ PSU-7511
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 48V; Sealed lead-acid; Maintenance-free **Backup time:** 20 min. **AC Output:** 120V; 1.25 kva; 1ph; 60Hz (±)0.05% **Cost:** $3,380 (includes battery)

ELECTROGUARD
(division of Acme Electric Corp.)

☐ Power Ready II
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V; Sealed lead-calcium; Maintenance-free **Backup time:** 15-30 min. **AC Output:** 120V; 0.8, 1.2 kva; 1ph; 60Hz (±)1% **Cost:** $995-$1,455

☐ Power-Ready/250; Power-Ready/500
AC Input: 120V; 1ph; 57-63Hz **Backup Battery:** 12V, 24V; Sealed lead-calcium; Maintenance-free **Backup time:** 5-10 min. **AC Output:** 120V; 0.25, 0.5 kva; 1ph; 60Hz (±)0.5% **Cost:** $495; $700

ELECTRONIC SPECIALISTS, INC.

☐ SU-250; SU-500
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V, 24V; Sealed-gel; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V; 0.25, 0.5 kva; 1ph; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage ☐ Status indicators: LED ☐ UPS failure alarm ☐ Portable **Units sold:** 100 since 1986 **Cost:** $1,095 (250 watt); $1,495 (500 watt)

ELGAR CORP.

☐ Model 102-1B
AC Input: 120V, 220V, 230V, 240V; 1ph; 50Hz; 60Hz **Backup Battery:** 72V; User-determined; Maintenance-free **Backup time:** 1 min. and up **AC Output:** 120V, 220V, 230V, 240V; 1 kva; 1ph; 50Hz (±)0.5%; 60Hz (±)0.5%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; LED indicator ☐ UPS failure alarm ☐ Portable **Units sold:** 10,000 since 1980 **Cost:** $4,250 **Battery:** $500

ENERGY ELECTRONIC SYSTEMS, INC.

☐ True on-line UPS
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 18V-24V; Lead-acid; Maintenance-free **Backup time:** 5 min. **AC Output:** 120V; 0.4-0.8 kva; 1ph; 60Hz; Square wave ☐ Phase locked to bypass line ☐ Load protected against: Undervoltage ☐ Status indicators: Audible alarm ☐ Portable **Introduced:** 1986 **Cost:** $795-$1,199

EXIDE ELECTRONICS CORP.

☐ Model 1101 (UL listed)
AC Input: 120/208/240V, 220/230/240V; 1ph; 60Hz; 50Hz **Backup Battery:** 120V; Sealed lead-acid; Maintenance-free **Backup time:** 0.25-11 hrs. **AC Output:** 120/208/240V, 220/230/240V; 1.5 kva; 1ph; 60Hz; 50Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm; Summary alarm contact ☐ UPS failure alarm ☐ Portable **Introduced:** 1984

GENERAL INTERFACE SYSTEMS, INC.

☐ PC-400
AC Input: 117V; 1ph; 60Hz **Backup Battery:** 52V; Sealed-gel; Maintenance-free **Backup time:** 15 min. **AC Output:** 120V; 0.4 kva; 1ph; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm **Units sold:** 2,100 since 1983 **Cost:** $1,095 **Battery:** $150

☐ 650 Power Source
AC Input: 117V; 1ph; 60Hz **Backup Battery:** 52V; Sealed-gel; Maintenance-free **Backup time:** 15 min. **AC Output:** 120V; 0.65 kva; 1ph; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm **Introduced:** 1982 **Cost:** $1,595 **Battery:** $175

GENERAL POWER SYSTEMS
(division of ALS Corp.)

☐ GPS-1K120-61 thru GPS-1K230-51
AC Input: 120V, 220V, 208V, 230V; 1ph; 50Hz; 60Hz **Backup Battery:** 60V; Lead-calcium; Maintenance-free **Backup time:** 18 min. **AC Output:** 120V, 208V, 220V, 230V; 1 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm **Introduced:** 1982

☐ GPS-2K120-61 thru GPS-2K230-51
AC Input: 120V, 208V, 220V, 230V; 1ph; 50Hz; 60Hz **Backup Battery:** 60V; Lead-calcium; Maintenance-free **Backup time:** 18 min. **AC Output:** 120V, 208V, 220V, 230V; 2 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm **Introduced:** 1982

☐ GPS-5005; GPS-5006
AC Input: 115V; 1ph; 50Hz; 60Hz **Backup Batterv:** 60V; Lead-calcium; Maintenance-free **Backup time:** 10-15 min. **AC Output:** 115V; 0.5 kva; 1ph; 50Hz; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Introduced:** 1982

☐ GPS-5025; GPS-5026
AC Input: 230V; 1ph; 50Hz; 60Hz **Backup Battery:** 60V; Sealed-gel; Lead-calcium; Maintenance-free **Backup time:** 15 min. **AC Output:** 230V; 0.5 kva; 1ph; 50Hz (±)2%; 60Hz (±)2%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Introduced:** 1982

HITRAN CORP.
Power Systems Division

☐ Model BA0206
AC Input: 120V, 208V, 120/240V; 1ph; 60Hz **Backup Battery:** 48V; Sealed lead-calcium; Maintenance-free **Backup time:** User-specified **AC Output:** 120V, 208V, 120/240V; 1 kva; 1ph; 60Hz (±)0.5%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm; Remote alarm contacts ☐ UPS failure alarm **Units sold:** 20 since 1981 **Cost:** $4,681 **Battery:** $416

ICS, INC.
ELECTRO-PAC Division

☐ M95-200; M95-600; M95-1000
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V, 48V; Sealed lead-acid; Maintenance-free **Backup time:** 7-25 min. **AC Output:** 120V; 0.2, 0.6, 1 kva; 1ph; 60Hz (±)5%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; LED ☐ UPS failure alarm ☐ Portable **Units sold:** 600 since 1980 **Cost:** $836-$2,780 **Battery:** $75

☐ UP2.OE120
AC Input: 120V, 208V, 240V, 480V; 1ph; 3ph wye; 3ph delta; 50Hz; 60Hz **Backup Battery:** 48V, 120V; Nickel-cadmium; Sealed-gel; Lead-calcium; Maintenance-free **Backup time:** User-specified **AC Output:** 120V, 240V, 120/240V; 2 kva; 1ph; 50Hz (±)0.5%; 60Hz (±)0.5%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Meters ☐ UPS failure alarm **Units sold:** 420 since 1979 **Cost:** $7,500 **Battery:** $486-$1,090

IMUNELEC, INC.

☐ Micro MS300
AC Input: 120V, (optional) 220V, 240V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Sealed lead-acid; Maintenance-free **Backup time:** 15 min. **AC Output:** 120V, (optional) 220V, 240V; 0.4 kva; 50Hz (±)1%; 60Hz (±)1%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Portable **Units sold:** 5,000 since 1984

☐ Micro MS600
AC Input: 120V, (optional) 220V, 240V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Sealed lead-acid; Maintenance-free **Backup time:** 15 min. **AC Output:** 120V, (optional) 220V, 240V; 0.6 kva; 1ph; 50Hz; 60Hz (±)0.1%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Portable **Introduced:** 1986

☐ Series 01 (0.5 Kva)
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V, 48V; Sealed lead-acid; Maintenance-free **Backup time:** 15 min. **AC Output:** 120V; 0.5 kva; 1ph; 60Hz (±)0.1%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Ammeter; Lamp; Audible alarm ☐ Portable **Units sold:** 2,500 since 1982

☐ Series 01 (1 Kva)
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 48V; Sealed lead-acid; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V; 1 kva; 1ph; 60Hz (±)0.1%; Sine wave ☐ Load protected against: Overvoltage ☐ Status indicators: Ammeter; Lamp; Audible alarm ☐ Portable **Units sold:** 3,000 since 1982

☐ Series 11 (1-2 Kva)
AC Input: 120V; 1ph; 60Hz; (optional) 50Hz **Backup Battery:** 48V; Sealed lead-acid; Maintenance-free **Backup time:** 15 min.-8 hrs. **AC Output:** 120V; 1, 1.5, 2 kva; 1ph; 60Hz (±)0.1%; (optional) 50Hz (±)0.1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Ammeter; Lamp; Audible alarm ☐ UPS failure alarm **Units sold:** 3,000 since 1980

ISOREG CORP.

☐ Isoguard On-line UPS (0.5 Kva)
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 60V; Sealed lead-calcium **Backup time:** 20 min. **AC Output:** 120V; 0.5 kva; 1ph; 60Hz (±)1% **Introduced:** 1986 **Cost:** $1,495

☐ Isoguard On-line UPS (1 Kva)
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 60V; Sealed lead-calcium **Backup time:** 20 min. **AC Output:** 120V; 1 kva; 1ph; 60Hz (±)1% **Introduced:** 1986 **Cost:** $1,995

JEFFERSON ELECTRIC
(division of Magnetek, Inc.)

☐ Energygard
AC Input: 95-130V; 1ph; 60Hz; Lead-acid; Maintenance-free **Backup time:** 7-45 min. **AC Output:** 120V; 0.25-1 kva; 1ph; 60Hz (±)0.5%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Introduced:** 1982 **Cost:** $2,200 (1Kva)

LAMARCHE MANUFACTURING CO.

☐ A52C Continuous System (1-2 Kva)
AC Input: 120V, 208/240V; 1ph; 3ph wye; 3ph delta; 50Hz; 60Hz **Backup Battery:** 24V, 48V, 130V; Lead-acid; Nickel-cadmium; Sealed-gel; Maintenance-free **Backup time:** User-specified **AC Output:** 120V, 240V; 1, 1.5, 2 kva; 1ph; 50Hz; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm ☐ UPS failure alarm **Introduced:** 1964

☐ A58C Continuous System (0.5 Kva)
AC Input: 120V; 1ph; 50Hz; 60Hz **Backup Battery:** 48V; Lead-acid; Nickel-cadmium; Sealed-gel; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V; 0.5 kva; 1ph; 50Hz; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Introduced:** 1985

L.E.A. DYNATECH, INC.
(division of Dynatech Corp.)

☐ Models CPS-500 thru CPS-5K
AC Input: 120V, 220V; 1ph; 50Hz; 60Hz **Backup Battery:** 12-48V; Lead-acid; Sealed-gel; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V, 120/240V, 220-240V; 0.5-5 kva; 1ph; 60Hz (±)0.1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Introduced:** 1984 **Cost:** $995-$21,510

LORAIN PRODUCTS
Reliance Comm/Tec Division

☐ ConstAC WDA102B
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 48V **Backup time:** User-specified **AC Output:** 120V; 1 kva; 1ph; 60Hz (±)1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp ☐ UPS failure alarm **Introduced:** 1979 **Cost:** $3,576

LUMITROL

☐ SIW200; SIW400; SIW700
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V, 24V; Lead-acid; Maintenance-free **Backup time:** 20 min. **AC Output:** 115-120V; 0.2, 0.4, 0.7 kva; 1ph; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Audible alarm ☐ UPS failure alarm **Cost:** $1,200

☐ SQW200; SQW400
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V, 36V; Sealed lead-acid; Maintenance-free **Backup time:** 20 min. **AC Output:** 115-120V; 0.2, 0.4 kva; 1ph; 60Hz (±)0.1%; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm **Cost:** $500

MODERN POWER TECHNOLOGY, INC.

☐ MUPS Series (0.75 Kva)
AC Input: 95-132V; 1ph; 50Hz; 60Hz **Backup Battery:** 72V; Sealed-gel; Maintenance-free **Backup time:** 20 min. **AC Output:** 117V; 0.75 kva; 1ph; 60Hz (±)0.03 Hz **Cost:** $1,650

☐ MUPS Series (1.2-2 Kva)
AC Input: 95-132V; 1ph; 60Hz **Backup Battery:** 72V; Sealed-gel; Maintenance-free **Backup time:** 10-180 min. **AC Output:** 117V; 1.2, 2 kva; 1ph; 60Hz (±)0.3% **Cost:** $2,245-$3,934

MPL POWER SYSTEMS (NORTH AMERICA), INC.

☐ Processgard (0.1-0.5 Kva)
AC Input: 480V, 208V; 1ph; 60Hz **Backup Battery:** 48V; Sealed-gel; Maintenance-free **Backup time:** 0.25-4 hrs. **AC Output:** 480V, 208V; 0.1-0.5 kva; 1ph; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm; Lighted indicators ☐ UPS failure alarm ☐ Portable **Units sold:** 55 since 1977 **Cost:** $700-$1,500

☐ Processgard (1-2 Kva)
AC Input: 480V, 208V; 1ph; 60Hz **Backup Battery:** 48V; Sealed-gel; Maintenance-free **Backup time:** 0.25-4 hrs. **AC Output:** 480V, 208V; 1, 2 kva; 1ph; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm; Lighted indicators ☐ UPS failure alarm **Units sold:** 100 since 1977 **Cost:** $4,000-$8,000

NIPPON ELECTRIC INDUSTRY CO., LTD.

☐ CM10501; CM10701; CM11001
AC Input: 200V, 210V, 380V, 415V, 440V; 3ph delta; 50Hz; 60Hz **Backup Battery:** 112V; Lead-acid; Nickel-cadmium **AC Output:** 115/120/200/220V; 5, 7.5, 10 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm ☐ UPS failure alarm

☐ Mini-UPS 0500
AC Input: 120V; 1ph; 50Hz; 60Hz **Backup Battery:** 96V; Sealed-gel; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V; 0.5 kva; 1ph; 50Hz (±)0.5Hz; 60Hz (±)0.5Hz; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp ☐ Portable **Units sold:** 3,000 since 1985 **Cost:** $1,700 **Battery:** $150

☐ Mini-UPS 1000
AC Input: 102-138V; 1ph; 50Hz; 60Hz **Backup Battery:** 96V; Lead-acid; Sealed-gel; Maintenance-free **Backup time:** 20 min. **AC Output:** 120/220V; 1 kva; 1ph; 50Hz (±)5Hz; 60Hz (±)5Hz; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp ☐ Portable **Units sold:** 14,000 since 1984 **Cost:** $2,600 **Battery:** $300

☐ Mini-UPS 3000
AC Input: 120/220V; 1ph; 50Hz; 60Hz **Backup Battery:** 96V; Sealed-gel; Maintenance-free **Backup time:** 15 min. **AC Output:** 120/220V; 3 kva; 1ph; 50Hz (±)0.5Hz; 60Hz (±)0.5Hz; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp ☐ Portable **Units sold:** 2,000 since 1985 **Cost:** $6,400 **Battery:** $800

NOVA ELECTRIC, INC.
(subsidiary of Hobart Brothers Co. Power Systems Group)

☐ Model 11-3K60-Y11
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 84V; Sealed lead-acid; Maintenance-free **Backup time:** 8 min. **AC Output:** 120V; 3 kva; 1ph; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp ☐ UPS failure alarm **Units sold:** 425 since 1980 **Cost:** $5,335 **Battery:** $925

PARA SYSTEMS, INC.

☐ Minuteman 1000V; MM1000SS
AC Input: 110V; 1ph; 60Hz **Backup Battery:** 48V; Sealed-gel; Maintenance-free **Backup time:** 10-30 min. **AC Output:** 115V; 1.2 kva; 1ph; 60Hz (±)1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Audible alarm; LED ☐ UPS failure alarm **Units sold:** 400 since 1986 **Cost:** $1,399 (includes battery) **Battery:** $399

☐ Minuteman 300V; MM300SS
AC Input: 110V; 1ph; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 8-20 min. **AC Output:** 115V; 0.36 kva; 1ph; 60Hz (±)1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Audible alarm; LED ☐ UPS failure alarm ☐ Portable **Units sold:** 1,000 since 1986 **Cost:** $549 **Battery:** $60

POWER GENERAL CORP.

☐ UPS-210
AC Input: 115V, 230V; 1ph; 50Hz; 60Hz **Backup Battery:** 12V **AC Output:** 115V, 230V; 0.2 kva; 1ph; 50Hz (±)0.01%; 60Hz (±)0.1%; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Portable **Introduced:** 1985 **Cost:** $249

RATELCO, INC.
Power Systems Division

☐ Type FIU (0.5 Kva)
AC Input: 120V, 208V, 240V, 480V; 1ph; 3ph wye; 3ph delta; 50Hz; 60Hz **Backup Battery:** 48V; Lead-acid; Sealed-gel; Maintenance-free **Backup time:** 0.25-8 hrs. **AC Output:** 120V; 0.5 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp ☐ UPS failure alarm **Units sold:** 30 since 1970 **Cost:** $3,890

☐ Type FIU (1-2 Kva)
AC Input: 120V, 208V, 240V, 480V; 1ph; 3ph wye; 3ph delta; 50Hz; 60Hz **Backup Battery:** 48V; Lead-acid; Sealed-gel; Maintenance-free **Backup time:** 0.25-8 hrs. **AC Output:** 120V; 1, 1.5, 2 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp ☐ UPS failure alarm **Units sold:** 30 since 1970 **Cost:** $7,795

RTE DELTEC CORP.

☐ Model 7026C
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 72V; Sealed-gel; Maintenance-free **Backup time:** User-specified **AC Output:** 120V; 2.5 kva; 1ph; 60Hz; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Remote contact closures; RS-232C diagnostics; LED; Analog metering ☐ UPS failure alarm **Units sold:** 75 since 1983 **Cost:** $5,995

SAB NIFE, INC.
(division of Sonesson Group)

☐ NIFEPOWER-DP 1000
AC Input: 117V; 1ph; 60Hz **Backup Battery:** 48V; Sealed lead-acid; Maintenance-free **Backup time:** 7 min. **AC Output:** 117V; 1 kva; 1ph; 60Hz (±)2% ☐ Load protected against: Overvoltage; Undervoltage **Cost:** $3,100

SHAPE MAGNETRONICS, INC.

☐ Line Tamer UPS
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed-gel; Maintenance-free **Backup time:** 35 min. **AC Output:** 120V; 0.25, 0.5 kva; 1ph; 60Hz (±)0.8%; Sine wave ☐ Status indicators: Audible alarm; LEDs ☐ Portable

SL WABER, INC.
(subsidiary of SL Industries, Inc.)

☐ LG-300
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 36V; Lead-acid; Maintenance-free **Backup time:** 0.5 hr. **AC Output:** 120V; 0.3 kva; 1ph; 60Hz (±)2%; Synthesized sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Audible alarm; LED ☐ UPS failure alarm ☐ Portable **Introduced:** 1985 **Cost:** $995

☐ LG-600
AC Input: 120V; 1ph; 50Hz; 60Hz **Backup Battery:** 120V; Lead-acid; Maintenance-free **Backup time:** 20 min. **AC Output:** 120V; 0.6 kva; 1ph; 60Hz; Sine wave ☐ Load protected against: Overvoltage ☐ Status indicators: Audible alarm; LED ☐ UPS failure alarm ☐ Portable **Introduced:** 1985 **Cost:** $1,495

SOLA ELECTRIC
(unit of General Signal)

☐ Mini UPS (0.4 Kva)
AC Input: 120V, 220/240V; 1ph; 50Hz; 60Hz **Backup Battery:** 72V; Starved electrolyte lead-acid; Maintenance-free **Backup time:** 10, 20 min. **AC Output:** 120V, 220/240V; 0.4 kva; 1ph; 50Hz (±)0.01%; 60Hz (±)0.01%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp ☐ Portable **Introduced:** 1980 **Cost:** $1,448 (includes battery)

☐ Mini UPS (0.6-0.75 Kva)
AC Input: 120V, 220/240V; 1ph; 50Hz; 60Hz **Backup Battery:** 72V; Starved electrolyte lead-acid; Maintenance-free **Backup time:** 10, 20 min. **AC Output:** 120V, 220/240V; 0.6, 0.75 kva; 1ph; 50Hz (±)0.01%; 60Hz (±)0.01%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp ☐ Portable **Introduced:** 1980 **Cost:** $2,100 (0.75 Kva) (includes battery)

SOLIDSTATE CONTROLS, INC.

☐ Powerbase 1000-PB1075
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 123V; Lead-acid; Maintenance-free **Backup time:** 30 min. **AC Output:** 120V; 0.75 kva; 1ph; 60Hz (±)3%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Introduced:** 1985 **Cost:** $2,000-$3,000

☐ Powerbase 1000-PB1150
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 123V; Lead-acid; Maintenance-free **Backup time:** 30 min. **AC Output:** 120V; 1.5 kva; 1ph; 60Hz (±)3%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Introduced:** 1985 **Cost:** $4,500-$6,500

SUN RESEARCH, INC.

☐ C Series (0.3-2 Kva)
AC Input: 95-130V, 220V; 1ph; 60Hz **Backup Battery:** 12V, 24V, 48V, 72V; Sealed-gel; Maintenance-free **Backup time:** 20-30 min. **AC Output:** 118V, 220V; 0.3, 0.6, 1, 1.5, 2 kva; 1ph; 60Hz (±)0.1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm **Units sold:** 6,000 since 1979 **Cost:** $850-$12,400 (includes battery)

☐ C Series (3-5 Kva)
AC Input: 95-130V, 220V; 1ph; 60Hz **Backup Battery:** 12V, 24V, 48V, 72V; Sealed-gel; Maintenance-free **Backup time:** 20-30 min. **AC Output:** 118V, 220V; 3, 5 kva; 1ph; 60Hz (±)0.1%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm **Units sold:** 1,000 since 1979 **Cost:** $8,680-$13,340 (includes battery)

SUNDANZ WORLD TRADE, LTD.

☐ Automatic Power System (0.5-1.5 Kva)
AC Input: 115V, 220V; 1ph; 60Hz **Backup Battery:** 24V, 48V; Lead-acid; Sealed-gel; Maintenance-free **Backup time:** 1-4 hrs. **AC Output:** 115V, 220V; 0.5, 0.75, 1, 1.5 kva; 1ph; 60Hz (±)0.5% **Cost:** $1,098-$4,695 (batteries included)

☐ Automatic Power System (2-2.5 Kva)
AC Input: 115V, 220V; 1ph; 60Hz **Backup Battery:** 48V; Lead-acid; Sealed-gel; Maintenance-free **Backup time:** 1-4 hrs. **AC Output:** 115V, 220V; 2, 2.5 kva; 1ph; 60Hz (±)0.5% **Cost:** $3,-298-$6,350 (batteries included)

☐ Matic Power System (0.5-1.5 Kva)
AC Input: 115V, 220V; 1ph; 60Hz **Backup Battery:** 24V, 48V; Lead-acid; Sealed-gel; Maintenance-free **Backup time:** 15 min. **AC Output:** 115V, 220V; 0.5, 0.75, 1, 1.5 kva; 1ph; 60Hz (±)0.5% **Cost:** $467-$1,695 (batteries included)

SUPERIOR ELECTRIC CO.

☐ UPS61002
AC Input: 95-135V; 1ph; 60Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 10 min. **AC Output:** 115V; 0.2 kva; 1ph; 60Hz (+)0%, (-)0.8%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Portable **Introduced:** 1984 **Cost:** $800 (includes battery)

☐ UPS61005
AC Input: 95-135V; 1ph; 60Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 10 min. **AC Output:** 115V; 0.5 kva; 1ph; 60Hz (+)0%, (-)0.8%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Portable **Introduced:** 1984 **Cost:** $1,000 (includes battery)

TECHNOLINKS INTERNATIONAL, INC.

☐ Micro-UPS Series (0.2-1 Kva)
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V, 24V; Sealed-gel; Maintenance-free **Backup time:** 20-60 min. **AC Output:** 120V; 0.2, 0.5, 0.75, 1 kva; 1ph; 60Hz (±)2%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp ☐ UPS failure alarm **Introduced:** 1983 **Cost:** $2,550 (1 Kva) (includes battery)

☐ UPS Series 350
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 48V; Sealed-gel; Maintenance-free **Backup time:** User-specified **AC Output:** 120V; 3.5 kva; 1ph; 60Hz (±)1%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Alarm contacts ☐ UPS failure alarm **Introduced:** 1982 **Cost:** $10,500-$11,300

TERADO CORP.

☐ Model 660-114
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V **AC Output:** 117V; 0.4 kva; 1ph; 60Hz (±)0.1% **Units sold:** 310 since 1984 **Cost:** $335

TOPAZ, INC.

☐ Series 82000
AC Input: 115V, 220V, 230V, 240V; 1ph; 50Hz; 60Hz **Backup Battery:** 72V; Sealed-gel; Maintenance-free **Backup time:** 19-24 min. **AC Output:** 115V, 220V, 230V, 240V; 0.5, 1, 1.2, 1.5 kva; 1ph; 50Hz (±)0.5%; 60Hz (±)0.5%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Undervoltage ☐ Status indicators: Voltmeter; Lamp ☐ UPS failure alarm **Cost:** $5,825-$10,425 (includes battery)

☐ UPS (0.5 Kva)
AC Input: 115V; 1ph; 60Hz **Backup Battery:** 72V; Lead-acid; Maintenance-free **Backup time:** 35 min. **AC Output:** 115V; 0.5 kva; 1ph; 50Hz (±)0.25%; 60Hz (±)0.25%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Lamp ☐ Portable **Cost:** $5,825 (includes battery)

☐ UPS (1-1.5 Kva)
AC Input: 115V; 1ph; 60Hz **Backup Battery:** 72V; Lead-acid **AC Output:** 115V; 1, 1.5 kva; 1ph; 50Hz (±)0.25%; 60Hz (±)0.25%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Lamp ☐ UPS failure alarm ☐ Portable **Cost:** $6,290-$10,425 (includes battery)

TRIAD POWER SYSTEMS

☐ TRI-UPS
AC Input: 120V; 1ph; 60Hz; Sealed lead-acid; Maintenance-free **Backup time:** 10-15 min. **AC Output:** 120V; 0.3, 0.6 kva; 1ph; 60Hz (±)0.1%; Quasi-sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ UPS failure alarm ☐ Portable **Units sold:** 2,400 since 1984 **Cost:** $1,095-$1,495

TRIAD-UTRAD

☐ KU-411; KU-611; KU-811; KU-1011
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 72V; Sealed lead-acid; Maintenance-free **Backup time:** 7-45 min. **AC Output:** 120V; 0.25, 0.5, 0.75, 1 kva; 1ph; 60Hz (±)0.5%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm ☐ Portable **Units sold:** 1000 since 1982 **Cost:** $2,000 **Battery:** $540

UPSYSTEMS

☐ Micro UPS (0.5 Kva)
AC Input: 104-126V; 1ph; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 20 min. **AC Output:** 115V; 0.5 kva; 1ph; 60Hz (±)0.5%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Ammeter; Lamp ☐ UPS failure alarm ☐ Portable **Units sold:** 15 since 1984

WARREN COMMUNICATIONS
(a unit of General Signal)

☐ 0.5 Kva UPS
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 48V; Lead-acid; Sealed-gel; Maintenance-free **Backup time:** 0.25-8 hrs. **AC Output:** 115V; 0.5 kva; 1ph; 60Hz (±)5%; Sine wave ☐ Load protected against: Overvoltage ☐ Status indicators: Lamp **Introduced:** 1980 **Cost:** $2,620 **Battery:** $240-$580

☐ 1.5 Kva UPS
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 48V; Lead-acid; Sealed-gel **Backup time:** 0.25-8 hrs. **AC Output:** 120V; 1.5 kva; 1ph; 60Hz (±)5%; Sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp ☐ UPS failure alarm **Introduced:** 1970 **Cost:** $4,017-$4,666 **Battery:** $240-$1,165

STANDBY POWER SUPPLIES

AMERICAN POWER CONVERSION CORP.

☐ Model 450AT+
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 0.1 hr. **AC Output:** 117V; 0.45 kva; 1ph; 60Hz; Modified sine wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 103V in 4 ms; Standby to line at 105V in 4 ms ☐ Portable **Units sold:** 200 since 1985 **Cost:** $799 (includes battery)

CONTROL TECHNOLOGY, INC. (OK)

☐ RBS-AC 300 VA Reserve Power System
AC Input: 102-132V, 187-265V; 1ph; 50Hz; 60Hz **Backup Battery:** 12V; Sealed-gel; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V, 220V, 230V, 240V; 0.3 kva; 1ph; 50Hz (±)0.75%; 60Hz (±)0.5%; Sine; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm; Signal outputs ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V, 204V in 3 ms; Standby to line at 109V, 219V in 2 ms ☐ Portable **Units sold:** 1,000 since 1983 **Cost:** $549 (includes battery)

☐ RBS-AC 500 VA Reserve Power System
AC Input: 102-132V, 187-265V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V, 220-240V; 0.5 kva; 1ph; 50Hz (±)0.75%; 60Hz (±)0.5%; Sine; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm; Signal outputs ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V, 204V in 3 ms; Standby to line at 109V, 219V in 2 ms ☐ Portable **Units sold:** 2,000 since 1983 **Cost:** $699

☐ RBS-AC 600 VA Reserve Power System
AC Input: 102-132V, 187-265V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V, 220-240V; 0.6 kva; 1ph; 50Hz (±)0.75%; 60Hz (±)0.5%; Sine; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm; Signal outputs ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 204V, 102V in 3 ms; Standby to line at 109V, 219V in 2 ms ☐ Portable **Units sold:** 1,000 since 1983 **Cost:** $799

CUESTA SYSTEMS CORP.

☐ DataSaver 200, Model 12060
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed-gel; Maintenance-free **Backup time:** 10 min. typical **AC Output:** 120V; 0.2 kva; 1ph; 60Hz (±)0.01%; Stepped sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 4 ms; Standby to line at 106V in 2 ms ☐ Portable **Units sold:** 11,000 since 1981 **Cost:** $495

☐ DataSaver 400, Model 12060
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 5 min. typical **AC Output:** 120V; 0.4 kva; 1ph; 60Hz (±)0.1%; Stepped sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 4 ms; Standby to line at 106V in 4 ms ☐ Portable **Units sold:** 1,600 since 1985 **Cost:** $695

☐ DataSaver 400, Model 23050
AC Input: 220-240V; 1ph; 50Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 10 min. typical **AC Output:** 230V; 0.4 kva; 1ph; 50Hz (±) 0.1%; Stepped sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 196V in 5 ms; Standby to line at 204V in 5 ms ☐ Portable **Introduced:** 1985 **Cost:** $795

☐ DataSaver 90, Model 12060
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed-gel; Maintenance-free **Backup time:** 10 min. typical **AC Output:** 120V; 0.09 kva; 1ph; 60Hz (±)0.01%; Stepped sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 4 ms; Standby to line at 106V in 2 ms ☐ Portable **Units sold:** 3,000 since 1980 **Cost:** $350

DELTRON, INC.
Central Division

☐ PU1000F
AC Input: 120V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V, 48V; Sealed lead-calcium; Maintenance-free **Backup time:** 35 min. **AC Output:** 120V, 220V; 1 kva; 1ph; 50Hz (±)0.001%; 60Hz (±)0.001%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 103.5V in 0.4 ms; Standby to line at 109V in 0.4 ms ☐ Portable **Introduced:** 1986 **Cost:** $1,240

☐ PU300Q; PU500Q
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V; Sealed lead-calcium; Maintenance-free **Backup time:** 5-10 min. **AC Output:** 120V, 220V; 0.3, 0.5 kva; 1ph; 50Hz (±)1%; 60Hz (±)1% ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 103.5V in 10 ms; Standby to line at 109V in 13 ms ☐ Portable **Introduced:** 1985 **Cost:** $450; $545

☐ PU500F
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V, 48V; Sealed lead-calcium; Maintenance-free **Backup time:** 9 min. **AC Output:** 120V, 220V; 0.5 kva; 1ph; 50Hz (±)0.001%; 60Hz (±)0.001%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 103.5V in 0.4 ms; Standby to line at 109V in 0.4 ms ☐ Portable **Introduced:** 1986 **Cost:** $960

DISPLEX, INC.
(subsidiary of North Hills Electronics, Inc.)

☐ PSS-7711; PSS-7725
AC Input: 115V, 230V; 1ph; 48-63Hz **Backup Battery:** 12V, 24V; Lead-acid; Maintenance-free **Backup time:** 15-18 min. **AC Output:** 115V, 230V; 0.2, 0.4 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1% **Introduced:** 1981 **Cost:** $375-$520 (includes battery)

ELECTRO VECTOR, INC.

☐ SRP-1000
AC Input: 115V; 1ph; 50Hz; 60Hz **Backup Battery:** 96V; Sealed-gel; Maintenance-free **Backup time:** 0.5 hrs. **AC Output:** 115V; 1.44 kva; 1ph; 60Hz (±)3%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm ***Load transfer*** **points:** Line to standby at 100V in 1 ms; Standby to line at 105V in 1 ms **Introduced:** 1984 **Cost:** $1,700 **Battery:** $220

☐ SRP-250
AC Input: 115V; 1ph; 50Hz; 60Hz **Backup Battery:** 48V; Sealed-gel; Maintenance-free **Backup time:** 0.17 hrs. **AC Output:** 115V; 0.36 kva; 1ph; 60Hz (±)3%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 100V in 1 ms; Standby to line at 105V in 1 ms **Introduced:** 1982 **Cost:** $903 **Battery:** $55

☐ SRP-500
AC Input: 115V; 1ph; 50Hz; 60Hz **Backup Battery:** 48V; Sealed-gel; Maintenance-free **Backup time:** 0.5 hrs. **AC Output:** 115V; 0.72 kva; 1ph; 60Hz (±)3%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 100V in 1 ms; Standby to line at 105V in 1 ms **Introduced:** 1981 **Cost:** $1,290 **Battery:** $110

ELECTRONIC PROTECTION DEVICES, INC. (EPD)
(subsidiary of ALS Corp.)

☐ GRIZZLY 1000VRS; 2000VRS
AC Input: 104-126V; 1ph; 60Hz **Backup Battery:** 48V, 60V; Lead-acid; Maintenance-free **Backup time:** 8-15 min. **AC Output:** 115V; 1, 2 kva; 1ph; 60Hz (±)0.1% ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 2 or 4 ms; Standby to line at 102V in 2 or 4 ms ☐ Portable **Introduced:** 1984 **Cost:** $1,300; $2,000

☐ GRIZZLY 300VRS; 500VRS
AC Input: 104-126V; 1ph; 60Hz **Backup Battery:** 36V, 48V; Lead-acid; Maintenance-free **Backup time:** 10-18 min. **AC Output:** 115V; 0.3, 0.5 kva; 1ph; 60Hz (±)0.1% ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 2 ms; Standby to line at 102V in 2 ms ☐ Portable **Introduced:** 1983 **Cost:** $600-$800

ELGAR CORP.

☐ Standby Battery Power Station
AC Input: 102-132V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V; 0.35 kva; 1ph; 50Hz (±)0.5%; 60Hz (±)0.5%; Rectangular wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 8-12 ms; Standby to line at 108V in 8-12 ms ☐ Portable **Units sold:** 10,000 since 1983 **Cost:** $765

GENERAL POWER SYSTEMS
(division of ALS Corp.)

☐ GPS-0.1K125R thru GPS-0.5K236R Memorygard II
AC Input: 115V, 230V; 1ph; 50Hz; 60Hz **Backup Battery:** 12V, 24V, 36V; Sealed-gel; Lead-calcium; Maintenance-free **Backup time:** 9-18 min. **AC Output:** 115V; 0.1-0.5 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1%; Square wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 2 ms; Standby to line at 105V in 2 ms ☐ Portable **Introduced:** 1984

☐ **GPS-1K125R thru GPS-1K236R Memorygard II**
AC Input: 115V, 230V; 1ph; 50Hz; 60Hz **Backup Battery:** 48V; Sealed-gel; Lead-calcium; Maintenance-free **Backup time:** 15 min. **AC Output:** 115V, 230V; 1 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1%; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 2 ms; Standby to line at 104V in 2 ms ☐ Portable **Introduced:** 1984

☐ **GPS-2K125R thru GPS-2K236R Memorygard II**
AC Input: 115V, 230V; 1ph; 50Hz; 60Hz **Backup Battery:** 60V; Sealed-gel; Lead-calcium; Maintenance-free **Backup time:** 8 min. **AC Output:** 115V, 230V; 2 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1%; Square wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 2 ms; Standby to line at 104V in 2 ms ☐ Portable **Introduced:** 1984

INTERNATIONAL MANUFACTURING & MARKETING, INC. (IM&M)

☐ **Fennex FX1006**
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 48V; Sealed lead-acid; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V; 1 kva; 1ph; 60Hz (±)1%; Modified rectangular wave ☐ Status indicators: Lamp; Audible alarm ☐ Portable **Units sold:** 600 since 1984 **Cost:** $859

☐ **Fennex FX2002; FX5004**
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V; Sealed lead-acid; Maintenance-free **Backup time:** 15-20 min. **AC Output:** 120V; 0.33, 0.5 kva; 1ph; 60Hz (±)1%; Modified rectangular wave ☐ Status indicators: Lamp; Audible alarm ☐ Portable **Units sold:** 2,000 since 1985 **Cost:** $349-$620

KALGLO ELECTRONICS CO., INC.

☐ **LS-250 Line-Saver**
AC Input: 120/240V; 1ph; 60Hz; 50Hz **Backup Battery:** 12V; Sealed-gel; Maintenance-free **Backup time:** 11 min. **AC Output:** 102-120V, 204-240V; 0.24 kva; 1ph; 60Hz; 50Hz; Rectangular stepped wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 106V, 212V in 2-4 ms; Standby to line at 108V, 216V in 2-4 ms ☐ Portable **Units sold:** 1,000 since 1983 **Cost:** $549

☐ **LS-500 Line-Saver**
AC Input: 110-125V; 1ph; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 11 min. **AC Output:** 120V; 0.5 kva; 1ph; 60Hz (±)0.5% **Introduced:** 1986 **Cost:** $795

LAMARCHE MANUFACTURING CO.

☐ **A52S Standby System (0.1-0.5 Kva)**
AC Input: 120V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V, 48V, 130V; Lead-acid; Nickel-cadmium; Sealed-gel; Maintenance-free **Backup time:** User-specified **AC Output:** 120V; 0.1, 0.3, 0.5 kva; 1ph; 50Hz; 60Hz; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Voltmeter; Ammeter; Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at User-specifiedV in 4 ms; Standby to line at User-specifiedV in 4 ms **Units sold:** 1,000 since 1964

LORTEC POWER SYSTEMS, INC.

☐ **Standby Power System (0.2, 0.4 Kva)**
AC Input: 120V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 10-20 min. **AC Output:** 120V; 0.2, 0.4 kva; 1ph; 60Hz (±)1%; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 4-6 ms; Standby to line at 108V in 4-6 ms ☐ Portable **Units sold:** 100 since 1984 **Cost:** $495 (0.2 kva); $695 (0.4 kva) (includes battery)

☐ **Standby Power System (1 Kva)**
AC Input: 120V; 1ph; 50Hz; 60Hz **Backup Battery:** 48V; Sealed-gel; Maintenance-free **Backup time:** 10-20 min. **AC Output:** 120V; 1 kva; 1ph; 60Hz (±)1%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 1 ms; Standby to line at 108V in 1 ms ☐ Portable **Units sold:** 100 since 1984 **Cost:** $1,395 (includes battery)

MEIRICK, INC.

Power Systems Division

☐ **The Meirick MI400**
AC Input: 115V; 1ph; 60Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 8-16 min. **AC Output:** 115V; 0.4 kva; 1ph; 60Hz (±)5%; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 3 ms; Standby to line at 107V in 1 ms ☐ Portable **Introduced:** 1983 **Cost:** $449; $495 (includes battery)

☐ **The Meirick MI800**
AC Input: 115V; 1ph; 60Hz **Backup Battery:** 24V; Sealed lead-acid; Maintenance-free **Backup time:** 8-10 min. **AC Output:** 115V; 0.8 kva; 1ph; 60Hz (±)5%; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 3 ms; Standby to line at 107V in 1 ms ☐ Portable **Introduced:** 1984 **Cost:** $795 (includes battery)

OHM ELECTRONICS

☐ **SPS 250XT**
AC Input: 110V-120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 10-15 min. **AC Output:** 110V-120V; 0.25 kva; Square wave ☐ Line to standby transfer alarm **Introduced:** 1986 **Cost:** $390

☐ **SPS 500AT**
AC Input: 110V-120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 10-15 min. **AC Output:** 110V-120V; 0.5 kva; Square wave **Introduced:** 1986 **Cost:** $730

☐ **SPS 500XT**
AC Input: 110V-120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 10-15 min. **AC Output:** 110V-120V; 0.5 kva; Square wave **Introduced:** 1986 **Cost:** $690

PANAMAX

☐ **PowerMAX 250 Watt**
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Lead-acid; Maintenance-free **Backup time:** 15 min. **AC Output:** 102-132V; 0.25 kva; 1ph; 60Hz; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 96V in 2 ms; Standby to line at 97V in 2 ms ☐ Portable **Units sold:** 4,500 since 1983 **Cost:** $559 (includes battery)

☐ **PowerMAX 400 Watt**
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Lead-acid; Maintenance-free **Backup time:** 20 min. **AC Output:** 102-132V; 0.5 kva; 1ph; 60Hz; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 96V in 3 ms; Standby to line at 97V in 5 ms ☐ Portable **Units sold:** 1,500 since 1983 **Cost:** $695 (includes battery)

☐ **PowerMAX 800 Watt**
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Lead-acid; Maintenance-free **Backup time:** 20 min. **AC Output:** 102-132V; 0.8 kva; 1ph; 60Hz; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 97V in 2 ms; Standby to line at 97V in 5 ms ☐ Portable **Units sold:** 500 since 1983 **Cost:** $995 (includes battery)

PARA SYSTEMS, INC.

☐ **Minuteman 250 Watt 120V MM250/1**
AC Input: 102-132V; 1ph; 60Hz **Backup Battery:** 12V; Sealed-gel; Maintenance-free **Backup time:** 8 min. **AC Output:** 102-132V; 0.25 kva; 1ph; 60Hz (±)3%; Rectangular stepped wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 100V in 2 ms; Standby to line at 105V in 2 ms ☐ Portable **Units sold:** 8,000 since 1983 **Cost:** $359 (includes battery) **Battery:** $30

☐ **Minuteman 250 Watt 220V MM250/2**
AC Input: 190-250V; 1ph; 50Hz **Backup Battery:** 12V; Sealed-gel; Maintenance-free **Backup time:** 8 min. **AC Output:** 190-250V; 0.25 kva; 1ph; 50Hz (±)3%; Rectangular stepped wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ UPS failure alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 185V in 2-4 ms; Standby to line at 200V in 2-4 ms ☐ Portable **Units sold:** 750 since 1983 **Cost:** $499 (includes battery) **Battery:** $30

☐ **Minuteman 500 Watt 120V MM500/1**
AC Input: 102-132V; 1ph; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 10 min. **AC Output:** 120V; 0.5 kva; 1ph; 60Hz (±)3%; Rectangular stepped wave ☐ Phase locked to bypass line ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V in 2 ms; Standby to line at 105V in 2 ms ☐ Portable **Units sold:** 4,000 since 1984 **Cost:** $699 (includes battery) **Battery:** $80

POWER GENERAL CORP.

☐ **UPS-200**
AC Input: 115V; 230V; 1ph; 50Hz; 60Hz **Backup Battery:** 12V; Lead-acid; Maintenance-free **Backup time:** 0.25 hrs. **AC Output:** 115V; 230V; 0.2 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1%; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 103V in 1.5 ms; Standby to line at 110V in 5.9 ms ☐ Portable **Introduced:** 1984 **Cost:** $395 **Battery:** $50

☐ **UPS-420**
AC Input: 115V, 230V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Lead-acid; Maintenance-free **Backup time:** 0.25 hrs. **AC Output:** 115V, 230V; 0.42 kva; 1ph; 50Hz (±)0.1%; 60Hz (±)0.1%; Square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 103V in 1.5 ms; Standby to line at 110V in 5.9 ms ☐ Portable **Introduced:** 1984 **Cost:** $595

PTI INDUSTRIES

☐ **AT1200**
AC Input: 120V, 220/240V; 1ph; 50Hz; 60Hz **Backup Battery:** 48V; Sealed lead-acid; Maintenance-free **Backup time:** 15-25 min. **AC Output:** 120V, 220/240V; 1.2 kva; 1ph; 50Hz; 60Hz; Sine wave ☐ Load protected against: Overvoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 104V, 187V, 204V in 4-10 ms; Standby to line at 104V, 187V, 204V in 4-10 ms ☐ Portable **Units sold:** 170 since 1985 **Cost:** $1,475

☐ AT1500
AC Input: 120V, 220V, 240V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Sealed lead-acid; Maintenance-free **Backup time:** 6 min. **AC Output:** 120V, 220V, 240V; 1.5 kva; 1ph; 50Hz (±)5%; 60Hz (±)5%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 108V, 187V, 204V in 4-10 ms; Standby to line at 110V, 205V, 224V in 4-10 ms ☐ Portable **Introduced:** 1985 **Cost:** $1,959

☐ AT500
AC Input: 120V, 220V, 240V; 1ph; 50Hz; 60Hz **Backup Battery:** 48V; Sealed lead-acid; Maintenance-free **Backup time:** 6 min. **AC Output:** 120V, 220V, 240V; 0.5 kva; 1ph; 50Hz (±)5%; 60Hz (±)5%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 108V, 187V, 204V in 4-10 ms; Standby to line at 110V, 205V, 224V in 4-10 ms ☐ Portable **Units sold:** 200 since 1985 **Cost:** $823

☐ AT800
AC Input: 120V, 220V, 240V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Sealed lead-acid; Maintenance-free **Backup time:** 6 min. **AC Output:** 120V, 220V, 240V; 0.8 kva; 1ph; 50Hz (±)5%; 60Hz (±)5%; Sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 108V, 187V, 204V in 4-10 ms; Standby to line at 110V, 205V, 224V in 4-10 ms ☐ Portable **Units sold:** 7,200 since 1985 **Cost:** $929

☐ PC200 (200 Watt)
AC Input: 120V, 220/240V; 1ph; 60Hz; 50Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 6 min. **AC Output:** 120V, 220V, 240V; 0.2 kva; 1ph; 60Hz (±)0.5%; 50Hz (±)0.5%; Pseudo sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 104V, 187V, 204V in 10 ms; Standby to line at 111V, 197V, 214V in 10 ms ☐ Portable **Units sold:** 14,000 since 1983 **Cost:** $400

☐ Turbo 350
AC Input: 120V, 220/240V; 1ph; 50Hz; 60Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 15-25 min. **AC Output:** 120V, 220/240V; 0.35 kva; 1ph; 50Hz; 60Hz; Pseudo sine wave ☐ Load protected against: Overvoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 104V, 187V, 204V in 1 ms; Standby to line at 104V, 187V in 1 ms ☐ Portable **Units sold:** 4,200 since 1985 **Cost:** $695

☐ XT300 (300 Watt)
AC Input: 120V, 220V, 240V; 1ph; 60Hz; 50Hz **Backup Battery:** 12V; Sealed lead-acid; Maintenance-free **Backup time:** 6 min. **AC Output:** 120V, 220V, 240V; 0.3 kva; 1ph; 60Hz (±)0.5%; 50Hz (±)0.5%; Pseudo sine wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 104V, 187V, 204V in 4 ms; Standby to line at 111V, 197V, 214V in 4 ms ☐ Portable **Units sold:** 15,500 since 1984 **Cost:** $579

RELAX TECHNOLOGY

☐ Backup Power Source 1
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V; Sealed lead-acid; Maintenance-free **Backup time:** 20 min. **AC Output:** 120V; 0.3 kva; 1ph; Modified square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Audible alarm; LED indicators ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 100V in 2-6 ms; Standby to line at 101V in 2-6 ms ☐ Portable **Introduced:** 1984 **Cost:** $400

☐ Backup Power Source 2
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V; Sealed lead-acid; Maintenance-free **Backup time:** 20 min. **AC Output:** 120V; 0.3 kva; 1ph; Modified square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Audible alarm; LED indicators ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 100V in 2-6 ms; Standby to line at 101V in 2-6 ms ☐ Portable **Introduced:** 1984 **Cost:** $600

☐ Backup Power Source 3
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 20 min. **AC Output:** 120V; 0.3 kva; 1ph; 60Hz; Modified square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Audible alarm; LED indicators ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 100V in 2-6 ms; Standby to line at 101V in 2-6 ms ☐ Portable **Introduced:** 1985 **Cost:** $800

RTE DELTEC CORP.

☐ Watchman I
AC Input: 102V-127V; 60Hz **Backup Battery:** 24V; Sealed lead-acid **Backup time:** 20 min. **AC Output:** 115V; 0.25 kva; 60Hz (±)1% **Introduced:** 1986 **Cost:** $299

☐ Watchman II
AC Input: 102-127V; 1ph; 60Hz **Backup Battery:** 24V; Sealed lead-acid **Backup time:** 20 min. **AC Output:** 115V; 0.4 kva; 1ph; 60Hz (±)1% **Introduced:** 1986

SAFE POWER SYSTEMS, INC.

☐ ESP-1000
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 48V; Sealed-gel; Maintenance-free **Backup time:** 30 min. **AC Output:** 120V; 0.8 kva; 1ph; 50Hz (±)1%; 60Hz (±)1% **Introduced:** 1986 **Cost:** $1,995

☐ Model 1200; 1200A
AC Input: 120V; 1ph; 50Hz; 60Hz **Backup Battery:** 48V; Sealed-gel; Maintenance-free **Backup time:** 6 min. **AC Output:** 120V; 1.2 kva; 1ph; 50Hz (±)1%; 60Hz (±)1%; Sine wave **Introduced:** 1986 **Cost:** $1,395; $1,595

☐ SPS-1000
AC Input: 117V, 220V, 240V; 50Hz; 60Hz **AC Output:** 120V; 1 kva; 50Hz; 60Hz; Sine wave **Load transfer points:** Line to standby at 108V in 1 ms; Standby to line at 112V in 1 ms **Cost:** $1,495

☐ SPS-200; SPS-400 Standby Power Systems
AC Input: 117V, 220V, 240V; 50Hz; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 10-20 min. **AC Output:** 120V; 0.2, 0.4 kva; Rectangular wave **Load transfer points:** Line to standby at 102V in 3-6 ms; Standby to line at 108V in 4-6 ms **Cost:** $399; $795

SMINDUSTRIES, INC.

☐ Elektro-Safe 7001, 7002, 7003 (0.225-0.5 Kva)
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 20 min. **AC Output:** 120V; 0.225, 0.270, 0.325, 0.5 kva; 1ph; 60Hz (±)0.5%; Modified square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 110V in 4-6 ms; Standby to line at 110V in 4-6 ms ☐ Portable **Units sold:** 1,800 since 1984 **Cost:** $449; $599

☐ Elektro-Safe 7001, 7002, 7003 (1 Kva)
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 20 min. **AC Output:** 120V; 1 kva; 1ph; 60Hz (±)0.5%; Modified square wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 110V in 4-6 ms; Standby to line at 110V in 4-6 ms ☐ Portable **Units sold:** 1,800 since 1984 **Cost:** $449-$599

SOLA ELECTRIC
(unit of General Signal)

☐ Model SPS 400; SPS 800
AC Input: 120V, 220/240V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Sealed-gel; Maintenance-free **Backup time:** 12 min. **AC Output:** 120V, 220/240V; 0.4, 0.8 kva; 1ph; 50Hz (±)1%; 60Hz (±)1%; Sine wave ☐ Load protected against: Undervoltage ☐ Status indicators: Audible alarm ☐ UPS failure alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 102V, 187/204V in 4-10 ms; Standby to line at 108V, 198/216V in 2-4 ms ☐ Portable **Units sold:** 50 since 1984 **Cost:** $720 (0.4 Kva); $855 (0.8 Kva) (includes battery)

SUMITRONICS, INC.
(subsidiary of Sumitomo Corp.)

☐ SPK-300S
AC Input: 102-132V; 1ph; 54-66Hz **AC Output:** 120V; 0.3, 0.45 kva; 60Hz (±)2% **Introduced:** 1985 **Cost:** $549; $749

☐ SPK-800A
AC Input: 102-132V; 1ph; 54-66Hz **Backup time:** 15 min. **AC Output:** 120V; 0.8 kva; 60Hz (±)2% **Cost:** $1,199

TERADO CORP.

☐ Model 50-168 Interceptor II
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V; Sealed-gel; Maintenance-free **Backup time:** 35-45 min. with 175 watt load **AC Output:** 117V; 0.18-0.20 kva; 1ph; 60Hz (±)0.1%; Square wave ☐ Load protected against: Overvoltage ☐ Status indicators: Lamp **Load transfer points:** Line to standby at 95-100V in 8 ms; Standby to line at 95-100V in 8 ms ☐ Portable **Units sold:** 14,300 since 1970 **Cost:** $262 **Battery:** $70

☐ Model 660-103
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V **AC Output:** 117V; 1 kva; 1ph; 60Hz (±)0.1%; Square wave ☐ Load protected against: Overvoltage ☐ Status indicators: Lamp **Load transfer points:** Line to standby at 95-100V in 25 ms; Standby to line at 95-100V in 25 ms **Units sold:** 395 since 1972 **Cost:** $1,511

☐ Model 660-108; 660-109
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V **AC Output:** 117V; 0.25-0.5 kva; 1ph; 60Hz (±)10%; Square wave ☐ Load protected against: Overvoltage ☐ Status indicators: Lamp **Load transfer points:** Line to standby at 95-100V in 25 ms; Standby to line at 95-100V in 25 ms **Units sold:** 575 since 1972 **Cost:** $930 (660-108); $1,042 (660-109)

☐ Model 660-110; 660-111; 660-113
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V **AC Output:** 117V; 1-2 kva; 1ph; 60Hz (±)10%; Square wave ☐ Load protected against: Overvoltage ☐ Status indicators: Lamp **Load transfer points:** Line to standby at 95-100V in 25 ms; Standby to line at 95-100V in 25 ms **Units sold:** 480 since 1972 **Cost:** $1,163 (660-110); $1,439 (660-113)

☐ Model 660-112
AC Input: 120V; 1ph; 60Hz **Backup Battery:** 12V **AC Output:** 117V; 0.5 kva; 1ph; 60Hz (±)5%; Square wave ☐ Load protected against: Overvoltage ☐ Status indicators: Lamp **Load transfer points:** Line to standby at 95-100V in 25 ms; Standby to line at 95-100V in 25 ms ☐ Portable **Units sold:** 2,690 since 1972 **Cost:** $535

TOPAZ, INC.

☐ Powermaker
AC Input: 120V, 220/240V; 1ph; 50Hz; 60Hz **Backup Battery:** 24V; Lead-acid; Maintenance-free **Backup time:** 9-35 min. **AC Output:** 120V, 220/240V; 0.4, 0.8, 1 kva; 1ph; 50Hz (±)1%; 60Hz (±)1%; Sine wave ☐ Load protected against: Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm **Load transfer points:** Line to standby at 103V in 4 ms; Standby to line at 110V in 2 ms ☐ Portable **Introduced:** 1983 **Cost:** $795-$1,140 (includes battery)

TRIPP LITE
(division of Trippe Manufacturing Co., Inc.)

☐ BC-1000FC; BC675FC
AC Input: 117V; 1ph; 60Hz Backup Battery: 12V; Sealed-gel; Maintenance-free Backup time: 16 min. AC Output: 117V; 1 kva; 1ph; 60Hz (±)0.5Hz; Rectangular wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp ☐ Line to standby transfer alarm Load transfer points: Line to standby at 103V in 5-8 ms; Standby to line at 108V in 5-8 ms ☐ Portable Introduced: 1982 Cost: $1,179; $829

☐ BC-200; BC-425FC
AC Input: 120V; 1ph; 60Hz Backup Battery: 12V; Sealed-gel; Maintenance-free Backup time: 15 min. AC Output: 117V; 0.2, 0.4 kva; 1ph; 60Hz; Rectangular wave ☐ Load protected against: Overvoltage; Undervoltage ☐ Status indicators: Lamp; Audible alarm ☐ Line to standby transfer alarm Load transfer points: Line to standby at 103V in 8 ms; Standby to line at 108V in 8 ms ☐ Portable Introduced: 1981 Cost: $359; $599

☐ SB-1000; SB-2000
AC Input: 120V; 1ph; 60Hz Backup Battery: 12V, 24V AC Output: 117V; 1, 2 kva; 1ph; 60Hz (±)0.5Hz; Rectangular wave ☐ Load protected against: Overvoltage ☐ Status indicators: Lamp Load transfer points: Line to standby at 95V in 12 ms; Standby to line at 110V in 12 ms Introduced: 1979 Cost: $699; $999

☐ SB-200; SB-400
AC Input: 120V; 1ph; 60Hz Backup Battery: 12V AC Output: 117V; 0.2, 0.4 kva; 1ph; 60Hz; Rectangular wave ☐ Load protected against: Overvoltage ☐ Status indicators: Lamp Load transfer points: Line to standby at 95V in 12 ms; Standby to line at 110V in 12 ms Introduced: 1979 Cost: $263; $359

WILMORE ELECTRONICS CO., INC.

☐ Model 1406
AC Input: 115V, 230V; 1ph; 50Hz; 60Hz Backup Battery: 12V, 24V, 36V, 48V AC Output: 115V, 230V; 0.05 kva; 1ph; 50Hz; 60Hz (±)0.25%; Stepped wave ☐ Load protected against: Undervoltage ☐ Status indicators: Lamp Load transfer points: Line to standby at 90V in 16 ms; Standby to line at 95V in 10 ms ☐ Portable Introduced: 1981 Cost: $375

☐ Model 1407
AC Input: 115V, 230V; 1ph; 50Hz; 60Hz Backup Battery: 12V, 24V, 36V, 48V AC Output: 115V, 230V; 0.25 kva; 1ph; 50Hz; 60Hz (±)0.25%; Stepped wave ☐ Load protected against: Undervoltage ☐ Status indicators: Lamp Load transfer points: Line to standby at 90V in 16 ms; Standby to line at 95V in 10 ms ☐ Portable Introduced: 1981 Cost: $630

☐ Model 1408
AC Input: 115V, 230V; 1ph; 50Hz; 60Hz Backup Battery: 12V, 24V, 36V, 48V AC Output: 115V, 230V; 0.5 kva; 1ph; 50Hz; 60Hz (±)0.25%; Stepped wave ☐ Load protected against: Undervoltage ☐ Status indicators: Lamp Load transfer points: Line to standby at 90V in 16 ms; Standby to line at 95V in 10 ms ☐ Portable Introduced: 1980 Cost: $875

☐ Model 1409
AC Input: 115V, 230V; 1ph; 50Hz; 60Hz Backup Battery: 24V, 36V, 48V AC Output: 115V, 230V; 1 kva; 1ph; 50Hz; 60Hz (±)0.25%; Stepped wave ☐ Load protected against: Undervoltage ☐ Status indicators: Lamp Load transfer points: Line to standby at 90V in 16 ms; Standby to line at 95V in 10 ms ☐ Portable Introduced: 1981 Cost: $1,250

POWER LINE ISOLATORS

CONTROLLED POWER CO.

☐ Series 600 (0.125-50 Kva)
AC Input: 120V, 208/240V; 1 ph; 3ph wye; 60Hz AC Output: 120V, 240V; 0.125-50 kva; 1ph; 3ph wye; Sine wave Efficiency: 95% Method of regulation: Electronic isolation transformer Suppression: Common mode: 140 db; Transverse mode 3 db at 600 Hz Harmonics 99.9% Response time: 16.6 ms Isolation transformer: 0.001 pf interwinding capacitance Load regulation: 98% Protected against: Overload; Short circuit

ELECTRONIC SPECIALISTS, INC.

☐ AC-SFK-33M Quad Filter/Suppressor
AC Input: 120V; 1 ph; 60Hz AC Output: 120V; 1 kva; 1ph; Sine wave Efficiency: 99% Suppression: Common mode: 30 db; Transverse mode 55 db Response time: 1 ns Protected against: Overvoltage Status indicators: Lamp ☐ Portable Units sold: 10,000 since 1981 Cost: $102

☐ II-SRV-15 Isolator/Interrupter
AC Input: 120V; 1 ph; 60Hz AC Output: 120V; 1.8 kva; 1ph; Sine wave Efficiency: 99% Suppression: Common mode: 30 db; Transverse mode 40 db Response time: 1 ns Protected against: Overvoltage; Overload Status indicators: Lamp ☐ Portable Units sold: 2,500 since 1981 Cost: $340

☐ ISO-3 Isolator
AC Input: 120V; 1 ph; 60Hz AC Output: 120V; 1.8 kva; 1ph; Sine wave Efficiency: 99.5% Suppression: Common mode: 30 db; Transverse mode 50 db Response time: 1 ns Protected against: Overvoltage Status indicators: Lamp ☐ Portable Units sold: 27,000 since 1980 Cost: $130

HITRAN CORP.
Power Systems Division

☐ UIS Series AA0686
AC Input: 120V; 1 ph; 50Hz; 60Hz AC Output: 120V; 0.5 kva; 1ph; Sine wave Efficiency: 97% Suppression: Common mode: 140 db; Transverse mode 60 db Response time: 50 ms Isolation transformer: 0.001 pf interwinding capacitance; 4,000 VAC dielectric strength Load regulation: 96% Protected against: Overvoltage; Overload; Short circuit Units sold: 50 since 1982 Cost: $320

☐ UIS Series AB1392
AC Input: 120V; 1 ph; 50Hz; 60Hz AC Output: 120V; 1 kva; 1ph; Sine wave Efficiency: 97% Suppression: Common mode: 140 db; Transverse mode 60 db Response time: 50 ms Isolation transformer: 0.001 pf interwinding capacitance; 4,000 VAC dielectric strength Load regulation: 96% Protected against: Overvoltage; Overload; Short circuit Status indicators: Voltmeter; Ammeter; Lamp Units sold: 100 since 1982 Cost: $500

RTE DELTEC CORP.

☐ SIT Series (0.25-0.5 Kva)
AC Input: 100V, 120V, 200V, 220V, 240V; 1 ph; 50Hz; 60Hz AC Output: 120V, 120/240V; 0.25-0.5 kva; 1ph Efficiency: 98% Suppression: Common mode: 140 db at 10 Hz-1 MHz Isolation transformer: 0.001 pf interwinding capacitance

☐ SIT Series (1-1.8 Kva)
AC Input: 100V, 120V, 200V, 220V, 240V; 1 ph; 50Hz; 60Hz AC Output: 120V, 120/240V; 1-1.8 kva; 1ph Efficiency: 98% Suppression: Common mode: 140 db at 10 Hz-1 MHz Isolation transformer: 0.001 pf interwinding capacitance

TOPAZ, INC.

☐ Series 10 Ultra-Isolator (0.12-0.5 Kva)
AC Input: 120V, 120/240V; 1 ph; 50Hz; 60Hz AC Output: 120V, 120/240V; 0.12, 0.25, 0.5 kva; 1ph; Sine wave Efficiency: 95%; Transverse mode 3 db at 600 Hz Harmonics 98% Isolation transformer: 0.0005 pf interwinding capacitance; 2,500 VAC dielectric strength ☐ Portable Cost: $255-$350

☐ Series 10 Ultra-Isolator (0.75-1.8 Kva)
AC Input: 120V, 120/240V; 1 ph; 50Hz; 60Hz AC Output: 120V, 120/240V; 0.75, 1, 1.8 kva; 1ph; 3ph wye; Sine wave Efficiency: 95% Suppression: Common mode: 126 db; Transverse mode 3 db at 600 Hz Harmonics 98%; 2,500 VAC dielectric strength ☐ Portable Cost: $350-$570

☐ Series 20 Ultra-Isolator (0.12-0.5 Kva)
AC Input: 120V, 120/240V; 1 ph; 50Hz; 60Hz AC Output: 120V, 120/240V; 0.12, 0.25, 0.5 kva; 1ph; Sine wave Efficiency: 96% Suppression: Common mode: 140 db; Transverse mode 3 db at 600 Hz Harmonics 98% Isolation transformer: 0.001 pf interwinding capacitance; 2,500 VAC dielectric strength ☐ Portable Cost: $290-$410

☐ Series 20 Ultra-Isolator (0.75-1.8 Kva)
AC Input: 120V, 120/240V; 1 ph; 50Hz; 60Hz AC Output: 120V, 120/240V; 0.75, 1, 1.8 kva; 1ph; Sine wave Efficiency: 95% Suppression: Common mode: 140 db; Transverse mode 3 db at 600 Hz Harmonics 98%; 2,500 VAC dielectric strength ☐ Portable Cost: $405-$600

☐ Series 30 Ultra-Isolator (0.125-0.5 Kva)
AC Input: 120V, 120/240V; 1 ph; 50Hz; 60Hz AC Output: 120V, 120/240V; 0.12, 0.25, 0.5 kva; 1ph; Sine wave Efficiency: 96% Suppression: Common mode: 146 db; Transverse mode 3 db at 600 Hz Harmonics 98% Isolation transformer: 0.0005 pf interwinding capacitance; 2,500 VAC dielectric strength Load regulation: 97% ☐ Portable Cost: $290-$455

☐ Series 30 Ultra-Isolator (0.75-1.8 Kva)
AC Input: 120V, 120/240V; 1 ph; 50Hz; 60Hz AC Output: 120V, 120/240V; 0.75, 1, 1.8 kva; 1ph; Sine wave Efficiency: 96% Suppression: Common mode: 146 db; Transverse mode 3 db at 600 Hz Harmonics 98% Isolation transformer: 0.0005 pf interwinding capacitance; 2,500 VAC dielectric strength ☐ Portable Cost: $540-$815

POWER LINE REGULATORS

CONTROLLED POWER CO.

☐ Series 500 (1-50 Kva)
AC Input: 120V, 208V, 240V; 1 ph; 3ph wye; 3ph delta; 50Hz; 60Hz AC Output: 120V, 240V, 208V; 1-50 kva; 1ph; 3ph wye; 3ph delta; Sine wave Efficiency: 98% Regulation: (±)5% Method of regulation: Autotransformer; Electrical

☐ Series 900
AC Input: 120V, 208V, 240V, 600V; 1 ph; 3ph wye; 60Hz AC Output: 120V, 208V, 240V, 600V; 25-150K, 1.5-75 kva; 1ph; 3ph wye; Sine wave Efficiency: 95% Regulation: (±)1% Method of regulation: Electronic Harmonics 95% Response time: 5 cycles

DISPLEX, INC.
(subsidiary of North Hills Electronics, Inc.)

☐ PLR-5108; PLR-5116
AC Input: 88-130V; 1 ph; 60Hz AC Output: 115V; 1, 2 kva; 1ph; Sine wave Efficiency: 93% Regulation: 10% Method of regulation: Electronic Suppression: Common mode: 40 db; Transverse mode 30 db Protected against: Overvoltage; Overload; Short circuit Status indicators: Voltmeter; Ammeter; Lamp ☐ Portable Introduced: 1982 Cost: $775; $875

☐ PLR-5204; PLR-5208
AC Input: 170-250V; 1 ph; 50Hz AC Output: 230V; 1, 2 kva; 1ph; Sine wave Efficiency: 93% Regulation: 10% Method of regulation: Electronic Suppression: Common mode: 40 db; Transverse mode 30 db Protected against: Overvoltage; Overload; Short circuit Status indicators: Voltmeter; Ammeter; Lamp ☐ Portable Introduced: 1982 Cost: $852; $962

GENERAL INTERFACE SYSTEMS, INC.

☐ VR-175; VR-325
AC Input: 100-130V; 60Hz AC Output: 120V; 0.175-0.325 kva; Sine wave Regulation: (±)3% Method of regulation: Ferroresonant Suppression: Common mode: 120 db; Transverse mode 60 db Harmonics 97% Response time: Instantaneous Protected against: Overvoltage; Short circuit Introduced: 1986 Cost: $139; $189

JEFFERSON ELECTRIC
(division of Magnetek, Inc.)

☐ Minigard
AC Input: 95-130V; 1 ph; 60Hz AC Output: 120V; 0.7-2 kva; 1ph; Sine wave Efficiency: 90% Regulation: (±)3% Suppression: Common mode: 120 db; Transverse mode 60 db Harmonics 97% Response time: 25 ms Protected against: Overload; Short circuit ☐ Portable Introduced: 1979 Cost: $150-$900

LORTEC POWER SYSTEMS, INC.

☐ CPU-300
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 0.3 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)5% **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** less than 25 ms **Protected against:** Overload

☐ CPU-750; CPU-1000; CPU-2000
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 0.75, 1, 2 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)3% **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** less than 25 ms **Protected against:** Overload; Short circuit

TELEDYNE BIG BEAM

☐ Power Dyne II (0.5 Kva)
AC Input: 120V, 208V, 240V; 1 ph; 60Hz **AC Output:** 120V, 240V; 0.5 kva; 1ph **Regulation:** (±)1% **Suppression:** Common mode: 60 db; Transverse mode 30 db **Harmonics** 97% **Response time:** 25 **Protected against:** Overvoltage

☐ Power Dyne II (0.75-2 Kva)
AC Input: 120V, 208V, 240V; 1 ph; 60Hz **AC Output:** 120V, 208V, 240V; 0.75, 2 kva; 1ph **Regulation:** (±)1% **Suppression:** Common mode: 60 db; Transverse mode 30 db **Harmonics** 97% **Response time:** 25 **Protected against:** Overvoltage

TOPAZ, INC.

☐ Series 75000 (1-1.5 Kva)
AC Input: 96-126V, 176-231V; 1 ph; 47-63Hz **AC Output:** 120V, 220V; 1, 1.5 kva; 1ph; Sine wave **Efficiency:** 98% **Regulation:** (±)5% **Harmonics** 99.9% **Response time:** 1 cycle ☐ Portable **Cost:** $980

☐ Series 75000 (2.5-10 Kva)
AC Input: 96-126V, 176-231V, 184-242V, 192-252V; 1 ph; 47-63Hz **AC Output:** 120V, 220V, 230V, 240V; 2.5, 5, 10 kva; 1ph; Sine wave **Efficiency:** 98% **Regulation:** (±)5% **Harmonics** 99.9% **Response time:** 1 cycle ☐ Portable **Cost:** $1,130-$3,315

☐ Series 77000 (1-2 Kva)
AC Input: 85-125V, 160-235V, 167-246V, 175-255V; 1 ph; 47-63Hz **AC Output:** 117V, 220V, 230V, 240V; 1, 2 kva; 1ph; Sine wave **Efficiency:** 98% **Regulation:** (±)7% **Harmonics** 99.9% **Response time:** 1 cycle ☐ Portable **Cost:** $940-$1,055

POWER LINE CONDITIONERS/ SUPPRESSORS

ACCO INTERNATIONAL, INC.

☐ Model 50676
AC Input: 120V; 1 ph; 60Hz **AC Output:** 120V; 1.2 kva; 1ph; Sine wave **Efficiency:** 100% **Regulation:** (+)10% **Method of regulation:** Electronic **Suppression:** Common mode: 55 db **Response time:** 75 ps ☐ Input circuit breaker ☐ Remote emergency shut-off **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp; Audible alarm ☐ Portable **Units sold:** 8,000 since 1984 **Cost:** $100

BROOKS MARKETING CORP.

☐ BN4-6
AC Input: 125V; 1 ph; 60Hz **AC Output:** 125V; 1.88 kva; 1ph; Sine wave **Suppression:** Common mode: 10-40 db; Transverse mode 10-40 db **Response time:** 5 ps ☐ Individual circuit breakers on output lines ☐ Remote emergency shut-off **Protected against:** Overvoltage; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 50,000 since 1983 **Cost:** $80

☐ BN6-6
AC Input: 125V; 1 ph; 60Hz **AC Output:** 125V; 1.88 kva; 1ph; Sine wave **Suppression:** Common mode: 10-40 db; Transverse mode 10-40 db **Response time:** 5 ps ☐ Individual circuit breakers on output lines ☐ Remote emergency shut-off **Protected against:** Overvoltage; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 50,000 since 1983 **Cost:** $85

CALIFORNIA INSTRUMENTS
(division of Amstar Technical Products Co., Inc.)

☐ Model LC1252B
AC Input: 180-264V; 1 ph; 50Hz; 60Hz **AC Output:** 220/230/240V; 1.2 kva; 1ph; Sine wave **Efficiency:** 80% **Regulation:** 0.025% **Method of regulation:** Electronic **Suppression:** Common mode: 100 db; Transverse mode 100 db **Harmonics** 98.8% **Response time:** 8 ms **Isolation transformer:** 1 pf interwinding capacitance; 500 VAC dielectric strength **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Voltmeter; Ammeter; Lamp ☐ Portable **Units sold:** 950 since 1973 **Cost:** $2,975

COMPUTER ACCESSORIES CORP. (CA)

☐ Power Director
AC Input: 115V; 1 ph; 50Hz **AC Output:** 115V; 9 kva; 1ph; Sine wave **Method of regulation:** Electronic **Suppression:** Common mode: 30 db at 5 MHz; Transverse mode 30 db at 5 MHz **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 200,000 since 1983 **Cost:** $99-$169

☐ PowerLine
AC Input: 115V; 1 ph; 50Hz **AC Output:** 115V; 9 kva; 1ph; Sine wave **Method of regulation:** Electronic **Response time:** 1 ns **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 30,000 since 1985 **Cost:** $50-$80

COMPUTER POWER, INC.

☐ OLCR (0.25-0.5 Kva)
AC Input: 120V, 240V; 1 ph; 50Hz; 60Hz **AC Output:** 120V, 240V; 0.5 kva; 1ph; Sine wave **Efficiency:** 86% **Regulation:** 2% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 80 db **Harmonics** 95% **Response time:** 8 ms **Isolation transformer:** 0.005 pf interwinding capacitance; 5,000 VAC dielectric strength **Load regulation:** 97-98% **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 1,941 since 1977 **Cost:** $440 (0.25 Kva); $550 (0.5 Kva)

☐ OLCR (1-1.5 Kva)
AC Input: 120V, 240V; 1 ph; 50Hz; 60Hz **AC Output:** 120V, 240V; 1, 1.5 kva; 1ph; Sine wave **Efficiency:** 88% **Regulation:** 2% **Suppression:** Common mode: 120 db; Transverse mode 80 db **Harmonics** 95% **Response time:** 8 ms **Isolation transformer:** 0.005 pf interwinding capacitance; 5,000 VAC dielectric strength **Load regulation:** 97-98% **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 2,106 since 1977 **Cost:** $830-$1,030

CONTROL CONCEPTS CORP.

☐ BDU-205 thru BDU-2100 ISLATROL
AC Input: 240V; 1 ph; 50-60Hz **AC Output:** 240V; 1.2-24 kva; 1ph; Sine wave **Efficiency:** 99% **Method of regulation:** Electronic; Solid state active tracking spike-transient suppressor **Suppression:** Common mode: 40 db; Transverse mode 40 db **Response time:** less than 5 ns; 5,000 VAC dielectric strength **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Units sold:** 1,000 since 1980 **Cost:** $245-$1,909

☐ Models BDU-102 thru BDU-1100 ISLATROL
AC Input: 90-135V; 1 ph; 50Hz; 60Hz; 400Hz **AC Output:** 120V; 0.3-12 kva; 1ph; Sine wave **Efficiency:** 99% **Method of regulation:** Electronic; Solid state active tracking spike-transient suppressor **Suppression:** Common mode: 40 db; Transverse mode 40 db **Response time:** less than 5 ns; 5,000 VAC dielectric strength **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Units sold:** 1,500 since 1980 **Cost:** $105-$1,405

☐ Models CP-2; CP-7; CP-15
AC Input: 120V; 1 ph; 50Hz; 60Hz **AC Output:** 120V; 0.3, 0.9, 1.8 kva; 1ph; Sine wave **Efficiency:** 99% **Method of regulation:** Electronic **Suppression:** Common mode: 40 db; Transverse mode 40 db **Response time:** less than 5 ns; 5,000 VAC dielectric strength ☐ Individual circuit breakers on output lines **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 1,000 since 1981 **Cost:** $69; $129; $199

CONTROLLED POWER CO.

☐ Series 700 (1-45 Kva)
AC Input: 120V, 208V; 1 ph; 50Hz; 60Hz **AC Output:** 120V, 208V, 240/120V; 1-45 kva; 1ph; Sine wave **Efficiency:** 95% **Regulation:** (±)5%; (±)3% **Method of regulation:** Electronic **Suppression:** Common mode: 140 db; Transverse mode 3 db at 600 Hz **Harmonics** 99% **Response time:** ¼ cycle **Load regulation:** 98% **Protected against:** Overvoltage

☐ Series 800 Power Purification System
AC Input: 120V, 208/240V; 1 ph; 3ph wye; 60Hz **AC Output:** 120V, 208/120V; 0.060-30 kva; 1ph; 3ph wye; Sine wave **Efficiency:** 90% **Regulation:** (±)3% **Method of regulation:** Electronic; Ferroresonant **Harmonics** 97% **Protected against:** Short circuit

CURRENT TECHNOLOGY, INC.

☐ PS Series
AC Input: 120/208/240V; 1 ph; 3ph wye; 3ph delta; 60Hz **AC Output:** 120/208/240V; 0.84-12 kva; 1ph; 3ph wye; 3ph delta; Sine wave **Efficiency:** 99.9% **Method of regulation:** Electronic **Suppression:** Common mode: 70-90 db; Transverse mode 70-90 db **Response time:** 1 ns **Load regulation:** 99% **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Voltmeter ☐ Portable **Introduced:** 1980 **Cost:** $850-$3,900

CURTIS MANUFACTURING CO., INC.

☐ Crystal LC-1, LC-3
AC Input: 120V; 1 ph; 60Hz **AC Output:** 120V; 1.5, 3 kva; 1ph **Efficiency:** 92% **Regulation:** (±)3% **Suppression:** Common mode: 120 db; Transverse mode 60 db **Protected against:** Short circuit **Cost:** $180; $240

DELTRON, INC.
Central Division

☐ Model C1PX
AC Input: 101/119V, 105-125V, 110-130V, 202-239V, 211-250V, 220-260V; 1 ph; 47-63Hz **AC Output:** 110V, 115V, 120V, 220V, 230V, 240V; 1 kva; 1ph; Sine wave **Efficiency:** 97% **Regulation:** (±)3.3% **Method of regulation:** Synchronous solid state switching **Suppression:** Common mode: 25 db at 100 kHz; Transverse mode 60 db at 100 kHz **Response time:** 8.3 ms **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Introduced:** 1985 **Cost:** $440-$540

☐ Model C3PX
AC Input: 80-117V, 83-123V, 87-127V, 160-235V, 167-246V, 175-255V; 1 ph; 47-63Hz **AC Output:** 110V, 115V, 120V, 220V, 230V, 240V; 1 kva; 1ph; Sine wave **Efficiency:** 97% **Regulation:** (±)7% **Method of regulation:** Synchronous solid state switching **Suppression:** Common mode: 25 db at 100 kHz; Transverse mode 60 db at 100 kHz **Response time:** 8.3 ms **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Introduced:** 1985 **Cost:** $495-$595

☐ Models C1AX; C1BX (1-2 Kva)
AC Input: 101-119V, 105-125V, 110-130V, 202-239V, 211-250V, 220-260V; 1 ph; 47-63Hz **AC Output:** 110V, 115V, 120V, 220V, 230V, 240V; 1, 2 kva; 1ph; Sine wave **Efficiency:** 97% **Regulation:** (±)3.3% **Method of regulation:** Synchronous solid state switching **Suppression:** Common mode: 25 db at 100 kHz; Transverse mode 60 db at 100 kHz **Response time:** 8.3 ms **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Introduced:** 1984 **Cost:** $378-$802

☐ Models C2AX; C2BX (1-2 Kva)
AC Input: 88-115V, 92-121V, 96-126V, 176-231V, 184-242V, 192-252V; 1 ph; 47-63Hz AC Output: 110V, 115V, 120V, 220V, 230V, 240V; 1, 2 kva; 1ph; Sine wave Efficiency: 97% Regulation: (±)5% Method of regulation: Synchronous solid state switching Suppression: Common mode: 25 db at 100 kHz; Transverse mode 60 db at 100 kHz Response time: 8.3 ms Protected against: Overvoltage; Overload; Short circuit ☐ Portable Introduced: 1984 Cost: $398-$844

☐ Models C3AX; C3BX (1-2 Kva)
AC Input: 80-117V, 83-123V, 87-127V, 160-235V, 167-246V, 175-255V; 1 ph; 47-63Hz AC Output: 110V, 115V, 120V, 220V, 230V, 240V; 1, 2 kva; 1ph; Sine wave Efficiency: 97% Regulation: (±)7% Method of regulation: Synchronous solid state switching Suppression: Common mode: 25 db at 100 kHz; Transverse mode 60 db at 100 kHz Response time: 8.3 ms Protected against: Overvoltage; Overload; Short circuit ☐ Portable Introduced: 1984 Cost: $420-$890

DISPLEX, INC.
(subsidiary of North Hills Electronics, Inc.)

☐ PLC-3104
AC Input: 120V; 1 ph; 60Hz AC Output: 120V; 0.5 kva; 1ph; Sine wave Efficiency: 95% Regulation: 3% Suppression: Common mode: 130 db; Transverse mode 80 db Isolation transformer: 0.005 pf interwinding capacitance; 2,500 VAC dielectric strength Load regulation: 95% ☐ Remote emergency shut-off Protected against: Overload; Short circuit Status indicators: Lamp ☐ Portable Introduced: 1985 Cost: $345

☐ PLC-3108; PLC-3116
AC Input: 120V; 1 ph; 60Hz AC Output: 120V; 1, 2 kva; 1ph; Sine wave Efficiency: 95% Regulation: 3% Suppression: Common mode: 130 db; Transverse mode 80 db Isolation transformer: 0.005 pf interwinding capacitance; 2,500 VAC dielectric strength Load regulation: 95% Protected against: Overload; Short circuit Status indicators: Lamp ☐ Portable Introduced: 1985 Cost: $515; $660

☐ PLC-3202
AC Input: 230V; 1 ph; 50Hz; 60Hz AC Output: 230V; 0.5 kva; 1ph; Sine wave Efficiency: 95% Regulation: 3% Suppression: Common mode: 130 db; Transverse mode 80 db Isolation transformer: 0.005 pf interwinding capacitance; 2,500 VAC dielectric strength Load regulation: 95% Protected against: Overload; Short circuit Status indicators: Lamp ☐ Portable Introduced: 1985 Cost: $405

☐ PLC-3204; PLC-3208
AC Input: 230V; 1 ph; 50Hz; 60Hz AC Output: 230V; 1, 2 kva; 1ph; Sine wave Efficiency: 95% Regulation: 3% Suppression: Common mode: 130 db; Transverse mode 80 db Isolation transformer: 0.005 pf interwinding capacitance; 2,500 VAC dielectric strength Load regulation: 95% Protected against: Overload; Short circuit Status indicators: Lamp ☐ Portable Introduced: 1985 Cost: $595; $760

ECOS ELECTRONICS CORP.

☐ SENTRE NC Series
AC Input: 120V; 1 ph; 60Hz AC Output: 120V; 0.25-1.8 kva; 1ph Efficiency: 95% Regulation: (±)3% Suppression: Common mode: 50 db; Transverse mode 50 db Harmonics 99% Response time: 5 ns Protected against: Overload

ELECTROGUARD
(division of Acme Electric Corp.)

☐ True Power (0.25-0.5 Kva)
AC Input: 95-130V; 1 ph; 60Hz AC Output: 120V; 0.25, 0.5 kva; 1ph Efficiency: 90% Regulation: (±)3% Cost: $285; $397

☐ True Power (0.75-2 Kva)
AC Input: 95-130V; 1 ph; 400Hz AC Output: 120V; 0.75, 1, 2 kva; 1ph Efficiency: 90% Regulation: (±)3% Cost: $501-$976

ELECTRONIC PROTECTION DEVICES, INC. (EPD)
(subsidiary of ALS Corp.)

☐ LEMON/ECI
AC Input: 125V; 1 ph; 60Hz AC Output: 125V; 1.875 kva; 1ph; Sine wave Method of regulation: Electronic Response time: 5 ns Protected against: Overvoltage Status indicators: LED ☐ Portable Introduced: 1981 Cost: $40

☐ LIME/ECII
AC Input: 125V; 1 ph; 60Hz AC Output: 125V; 1.875 kva; 1ph; Sine wave Method of regulation: Electronic Response time: 5 ns Protected against: Overvoltage; Short circuit Status indicators: LED ☐ Portable Introduced: 1981 Cost: $60

☐ ORANGE/ECV
AC Input: 125V; 1 ph; 60Hz AC Output: 125V; 1.875 kva; 1ph; Sine wave Method of regulation: Electronic Suppression: Common mode: 5-37 db; Transverse mode 5-37 db Response time: 5 ns Protected against: Overvoltage Status indicators: LED ☐ Portable Introduced: 1981 Cost: $80

☐ PEACH/ECIV
AC Input: 125V; 1 ph; 60Hz AC Output: 125V; 1.875 kva; 1ph; Sine wave Method of regulation: Electronic Suppression: Common mode: 5-37 db; Transverse mode 5-37 db Response time: 5 ns Protected against: Overvoltage Status indicators: LED ☐ Portable Introduced: 1981 Cost: $50

ELECTRONIC SPECIALISTS, INC.

☐ KLR-250A; KLR-500A
AC Input: 120V; 1 ph; 60Hz AC Output: 120V; 0.25; 0.5 kva; 1ph; Sine wave Efficiency: 85% Regulation: 4% Method of regulation: Ferroresonant Suppression: Common mode: 50 db; Transverse mode 50 db Harmonics 97% Response time: 8 ms Isolation transformer: 5 pf interwinding capacitance; 2,500 VAC dielectric strength Load regulation: 98% ☐ Isolation transformer Protected against: Overvoltage; Overload; Short circuit Status indicators: Lamp ☐ Portable Units sold: 2,500 since 1983 Cost: $430

ELGAR CORP.

☐ PLC 1000; PLC 1500; PLC 1501
AC Input: 90-135V; 1 ph; 60Hz AC Output: 117V; 1, 1.5, 1.8 kva; 1ph; Sine wave Efficiency: 80% Regulation: (±)2.5% Method of regulation: Ferroresonant Suppression: Common mode: 60 db; Transverse mode 60 db Harmonics 95% Isolation transformer: 3 pf interwinding capacitance ☐ Isolation transformer Protected against: Overvoltage; Overload; Short circuit ☐ Portable Units sold: 5,000 since 1982 Cost: $680; $890

☐ PLC 125; PLC 250; PLC 500
AC Input: 90-135V; 1 ph; 60Hz AC Output: 117V; 0.125, 0.25, 0.5 kva; 1ph; Sine wave Efficiency: 80% Regulation: (±)2.5% Method of regulation: Ferroresonant Suppression: Common mode: 60 db; Transverse mode 60 db Harmonics 95% Isolation transformer: 3 pf interwinding capacitance ☐ Isolation transformer Protected against: Overvoltage; Overload; Short circuit ☐ Portable Units sold: 5,000 since 1982 Cost: $300 (PLC 125); $350 (PLC 250); $425 (PLC 500)

HITRAN CORP.
Power Systems Division

☐ SFR Series AA0644
AC Input: 120V, 208V, 240V, 480V; 1 ph; 60Hz AC Output: 120/240V; 0.5 kva; 1ph; Sine wave Efficiency: 90% Regulation: (±)1% Method of regulation: Ferroresonant Suppression: Common mode: 120 db; Transverse mode 60 db Harmonics 95% Response time: 50 ms Isolation transformer: 0.005 pf interwinding capacitance; 4,000 VAC dielectric strength Load regulation: 96% Protected against: Overvoltage; Overload; Short circuit Status indicators: Voltmeter; Ammeter; Lamp Units sold: 20 since 1981 Cost: $404

☐ SFR Series AB1191
AC Input: 120V, 208V, 240V, 480V; 1 ph; 60Hz AC Output: 120/240V; 1 kva; 1ph; Sine wave Efficiency: 90% Regulation: (±)1% Method of regulation: Ferroresonant Suppression: Common mode: 120 db; Transverse mode 60 db Harmonics 95% Response time: 50 ms Isolation transformer: 0.005 pf interwinding capacitance; 4,000 VAC dielectric strength Load regulation: 96% Protected against: Overvoltage; Overload; Short circuit Status indicators: Voltmeter; Ammeter; Lamp Units sold: 20 since 1981 Cost: $502

☐ SFR Series AB1192
AC Input: 120V, 208V, 240V, 480V; 1 ph; 60Hz AC Output: 120/240V; 2 kva; 1ph; Sine wave Efficiency: 90% Regulation: (±)1% Method of regulation: Ferroresonant Suppression: Common mode: 120 db; Transverse mode 60 db Harmonics 95% Response time: 50 ms Isolation transformer: 0.005 pf interwinding capacitance; 4,000 VAC dielectric strength Load regulation: 96% Protected against: Overvoltage; Overload; Short circuit Status indicators: Voltmeter; Ammeter; Lamp Units sold: 200 since 1981 Cost: $685

INTERNATIONAL POWER MACHINES CORP.

☐ Power Screen P10/112
AC Input: 120V; 1 ph; 50Hz; 60Hz AC Output: 120V; 1.2 kva; 1ph; Sine wave Efficiency: 99% Regulation: 10% Method of regulation: Electronic Suppression: Common mode: 60-90 db from 2 kHz-100 MHz; Transverse mode 60-90 db from 2 kHz-100 MHz Response time: 5 ns Protected against: Overvoltage; Overload; Short circuit ☐ Portable Introduced: 1984 Cost: $363

ISOREG CORP.

☐ Single-phase Conditioner (0.12-0.37 Kva)
AC Input: 120V, 208V, 220V; 1 ph; 60Hz AC Output: 120V, 220V; 0.12, 0.25, 0.37 kva; 1ph Efficiency: 80-85%

☐ Single-phase Conditioner (0.75-1.2 Kva)
AC Input: 120V, 208V, 220V, 240V; 1 ph; 60Hz AC Output: 120V, 220V, 240V; 0.75, 1.2 kva; 1ph Efficiency: 80-85%

KALGLO ELECTRONICS CO., INC.

☐ Spike-Spiker Series
AC Input: 120V; 1 ph; 3ph wye; 3ph delta; 60Hz; 50Hz AC Output: 120V; 1.8, 3.6 kva; 1ph; 3ph wye; 3ph delta; Sine wave Efficiency: 99.9% Method of regulation: Electronic Suppression: Common mode: 46 db at 10 MHz; Transverse mode 60 db at 10 MHz Response time: 1 ps; 5 ns Protected against: Overvoltage; Overload Status indicators: Lamp ☐ Portable Units sold: 25,000 since 1979 Cost: $30-$117

KENSINGTON MICROWARE, LTD.

☐ Masterpiece
AC Input: 120V; 1 ph; 60Hz AC Output: 120V; 1.5 kva; 1ph Status indicators: LED ☐ Portable Cost: $150

☐ Masterpiece Plus
AC Input: 120V; 1 ph; 60Hz AC Output: 120V; 1.5 kva; 1ph Status indicators: LED ☐ Portable Cost: $180

LAKONTEK, INC.

☐ Model 9001
AC Input: 115V; 1 ph; 60Hz AC Output: 115V; 0.5 kva; 1ph; Sine wave Suppression: Common mode: 50 db; Transverse mode 50 db Response time: 50 ns Protected against: Overvoltage; Overload; Short circuit ☐ Portable Introduced: 1983 Cost: $200

☐ Model 9002
AC Input: 115V; 1 ph; 60Hz AC Output: 115V; 1.5 kva; 1ph; Sine wave Suppression: Common mode: 50 db; Transverse mode 50 db Response time: 50 ns Protected against: Overvoltage; Overload; Short circuit ☐ Portable Introduced: 1983 Cost: $270

☐ Model 9021
AC Input: 95-135V; 1 ph; 60Hz **AC Output:** 112-119V; 0.5 kva; 1ph; Sine wave **Efficiency:** 95% **Regulation:** (±)3% **Method of regulation:** Electronic **Suppression:** Common mode: 50 db; Transverse mode 50 db **Response time:** 50 ns **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Introduced:** 1983 **Cost:** $450

☐ Model 9022
AC Input: 95-135V; 1 ph; 60Hz **AC Output:** 112-119V; 1.5 kva; 1ph; Sine wave **Efficiency:** 95% **Regulation:** (±)3% **Method of regulation:** Electronic **Suppression:** Common mode: 50 db; Transverse mode 50 db **Response time:** 50 ns **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Introduced:** 1983 **Cost:** $700

MCG ELECTRONICS, INC.

☐ P210/300
AC Input: 120V; 1 ph; 50Hz; 60Hz; 400Hz **AC Output:** 120V; 1.2 kva; 1ph; Sine wave **Efficiency:** 99% **Response time:** 1 ns **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Cost:** $137

MERRIMACK MAGNETICS CORP.
(subsidiary of HCC Industries)

☐ PG-151MJ-0092
AC Input: 120V; 1 ph; 60Hz **AC Output:** 120V; 0.15 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)5% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** instantaneous **Isolation transformer:** 3 pf interwinding capacitance; 1,500 VAC dielectric strength **Load regulation:** 97% **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Introduced:** 1985 **Cost:** $145

☐ PG-301MJ-0082
AC Input: 120V; 1 ph; 60Hz **AC Output:** 120V; 0.3 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** instantaneous **Isolation transformer:** 3 pf interwinding capacitance; 1,500 VAC dielectric strength **Load regulation:** 97% **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Introduced:** 1985 **Cost:** $195

☐ P6-251MG-0040; P6-501MG-0041
AC Input: 120V; 1 ph; 60Hz **AC Output:** 120V; 0.25, 0.5 kva; 1ph; Sine wave **Efficiency:** 92% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** instantaneous **Isolation transformer:** 3 pf interwinding capacitance; 1,500 VAC dielectric strength **Load regulation:** 97% **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Introduced:** 1983 **Cost:** $310-$544

☐ P6-751MG-0042; P6-102MG-0043; P6-152MG-0044; P6-202MG-0045
AC Input: 120V; 1 ph; 60Hz **AC Output:** 120V; 0.75, 1, 1.5, 2 kva; 1ph; Sine wave **Efficiency:** 92% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** instantaneous **Isolation transformer:** 3 pf interwinding capacitance; 1,500 VAC dielectric strength **Load regulation:** 97% **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Introduced:** 1983 **Cost:** $544-$1,061

MICRON INDUSTRIES CORP.

☐ CVCN075K15P-CVCN500K15P
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 0.075, 0.15, 0.25, 0.5 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** 3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 25 ms **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Introduced:** 1970 **Cost:** $176-$360

☐ CVCN120KB15W-CVCN500KB1519W
AC Input: 95-130V/190-260V; 1 ph; 60Hz **AC Output:** 120V, 120/240V; 0.12, 0.15, 0.25, 0.5 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** 3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 25 ms **Protected against:** Overvoltage; Overload; Short circuit **Introduced:** 1970 **Cost:** $179-$341

☐ CVCN500BU1519W
AC Input: 190-260V/380-520V; 1 ph; 60Hz **AC Output:** 120/240V; 0.5 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** 3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 25 ms **Protected against:** Overvoltage; Overload; Short circuit **Introduced:** 1970 **Cost:** $341

☐ CVCN750BU1519W-CVCN2K0BU1519W
AC Input: 190-260V/380-520V; 1 ph; 60Hz **AC Output:** 120/240V; 0.75, 1, 1.5, 2 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** 3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 25 ms **Protected against:** Overvoltage; Overload; Short circuit **Introduced:** 1970 **Cost:** $434-$891

☐ CVCN750KB1519W-CVCN2K0KB1519W
AC Input: 95-130V/190-260V; 1 ph; 60Hz **AC Output:** 120/240V; 0.75, 1, 1.5, 2 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** 3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 25 ms **Protected against:** Overvoltage; Overload; Short circuit **Introduced:** 1970 **Cost:** $434-$891

☐ CVCN750K15P-CVCN2K015P
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 0.75, 1, 1.5, 2 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** 3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 25 ms **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Introduced:** 1970 **Cost:** $459-$907

MODERN POWER TECHNOLOGY, INC.

☐ MPR Series-Tap Switching (1-2 Kva)
AC Input: 120V, 208V, 220V, 240V, 380V, 415V, 480V, 600V; 1 ph; 50Hz; 60Hz **AC Output:** 120V, 120/240V, 220V, 240V; 1, 1.5, 2 kva; 1ph; Sine wave **Cost:** $822-$1,050

ONEAC CORP.

☐ CM1102; CM1103; CM1105; CM1107 (Micromate)
AC Input: 120V; 1 ph; 50Hz; 60Hz **AC Output:** 120V; 0.2, 0.4, 0.5, 0.75 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** 50% **Response time:** 5 ns; 1,240 VAC dielectric strength **Load regulation:** 97% ☐ Remote emergency shut-off **Protected against:** Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 27,000 since 1984 **Cost:** $254-$509

☐ CS1110 thru CS1120
AC Input: 120V; 1 ph; 50Hz; 60Hz **AC Output:** 120V; 1-1.9 kva; 1ph; Sine wave **Efficiency:** 95% **Response time:** 5 ns; 1,240 VAC dielectric strength **Load regulation:** 98% ☐ Individual circuit breakers on output lines **Protected against:** Short circuit ☐ Portable **Units sold:** 40,000 since 1981 **Cost:** $935 (CS1110); $1,663 (CS1120)

PARA SYSTEMS, INC.

☐ CP 1200
AC Input: 115-120V; 1 ph; 60Hz **AC Output:** 120V; 1.2 kva; 1ph; Sine wave **Efficiency:** 99%; Transverse mode 20-138 db **Response time:** 5 ps; 1,000 VAC dielectric strength ☐ Input circuit breaker **Protected against:** Overvoltage; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 10,000 since 1984 **Cost:** $50

PERMA POWER ELECTRONICS, INC.

☐ Extended Life Surge Suppressor
AC Input: 117V; 1 ph; 50Hz; 60Hz **AC Output:** 117V; 1.85 kva; 1ph; Sine wave **Suppression:** Common mode: 20 db at 2-100 MHz; Transverse mode 20 db at 2-100 MHz **Response time:** 5 ps **Protected against:** Overload; Short circuit **Introduced:** 1982 **Cost:** $49-$80

☐ Perma Power Surge Suppressors
AC Input: 117V; 1 ph; 50Hz; 60Hz **AC Output:** 117V; 1.85 kva; 1ph; Sine wave **Response time:** 5 ns **Protected against:** Overload; Short circuit ☐ Portable **Introduced:** 1982 **Cost:** $35-$80

POWER CONTROL, INC.

☐ IL-120-201; IL-120-301
AC Input: 120V; 1 ph; 50Hz; 60Hz **AC Output:** 120V; 2.4, 3.6 kva; 1ph **Cost:** $965; $1,165

☐ uPC-600
AC Input: 120V; 1 ph; 50Hz; 60Hz **AC Output:** 120V; 0.6 kva; 1ph; Sine wave **Efficiency:** 99% **Cost:** $265

POWER DISTRIBUTION, INC.

☐ Micro XP (250-500 VA)
AC Input: 120V, 90-138V; 1 ph; 57-63Hz **AC Output:** 120V, 120/240V; 0.25-0.5 kva; 1ph **Efficiency:** 95% **Regulation:** (±)6% **Suppression:** Common mode: 140 db; Transverse mode 60 db **Harmonics** 99% **Isolation transformer:** 0.001 pf interwinding capacitance **Protected against:** Overvoltage; Overload **Status indicators:** Lamp

☐ Micro XP (600-1,000 VA)
AC Input: 120V, 90-138V; 1 ph; 57-63Hz **AC Output:** 120V, 120/240V; 0.6, 1 kva; 1ph **Efficiency:** 95% **Regulation:** (±)6% **Suppression:** Common mode: 140 db; Transverse mode 60 db **Harmonics** 99% **Isolation transformer:** 0.001 pf interwinding capacitance **Protected against:** Overvoltage; Overload **Status indicators:** Lamp

☐ Mini XP (2 Kva)
AC Input: 240V, 180-276V, 165-249V; 1 ph; 57-63Hz **AC Output:** 120/240V, 208V; 2 kva; 1ph **Efficiency:** 95% **Regulation:** (±)6% **Suppression:** Common mode: 140 db; Transverse mode 60 db **Harmonics** 99% **Isolation transformer:** 0.001 pf interwinding capacitance **Protected against:** Overvoltage; Overload **Status indicators:** Lamp

POWER INTEGRITY CORP.

☐ ZTA-120; ZTA-120F; ZTAR
AC Input: 120V; 1 ph; 50Hz; 60Hz **AC Output:** 120V; 1.44 kva; 1ph; Sine wave **Suppression:** Common mode: 20 db at 15 MHz to 60 db at 10 MHz; Transverse mode 30 db at 15 MHz to 60 db at 10 MHz **Response time:** 1 ps **Protected against:** Overvoltage; Overload; Short circuit **Introduced:** 1981 **Cost:** $32 (ZTA-120); $33 (ZTA-120F); $60 (ZTAR)

☐ ZTAH; ZTAP; ZTAS
AC Input: 120V; 1 ph; 50Hz; 60Hz **AC Output:** 120V; 1.8 kva; 1ph; Sine wave **Suppression:** Common mode: 20 db at 15 MHz to 60 db at 10 MHz; Transverse mode 30 db at 15 MHz to 60 db at 10 MHz **Response time:** 1 ps **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Introduced:** 1981 **Cost:** $145 (ZTAP, ZTAS); $83 (ZTAH)

POWER-MATIC, INC.

☐ Model LC-3150
AC Input: 110V, 220V; 1 ph; 45-70Hz **AC Output:** 100-120V, 200-240V; 1 kva; 1ph; Sine wave **Efficiency:** 99% **Regulation:** 3.3%, 6% **Method of regulation:** Electronic **Suppression:** Common mode: 40 db; Transverse mode 140 db **Harmonics** 99% **Response time:** ½ cycle **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Units sold:** 3,250 since 1974 **Cost:** $620-$680

☐ Model LC-503
AC Input: 110V, 220V; 1 ph; 45-70Hz **AC Output:** 110-120V, 200-240V; 0.5 kva; 1ph; Sine wave **Efficiency:** 99% **Regulation:** 3.3%, 6% **Method of regulation:** Electronic **Suppression:** Common mode: 40 db; Transverse mode 140 db **Harmonics** 99% **Response time:** ½ cycle **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Units sold:** 4,000 since 1974 **Cost:** $510

☐ Varitron
AC Input: 90-140V; 1 ph; 50Hz; 60Hz **AC Output:** 110V, 220V; 4.5 kva; 1ph; Sine wave **Efficiency:** 97% **Regulation:** 1%, 0.1% **Method of regulation:** Electronic; Energy dispenser **Suppression:** Common mode: 60 db; Transverse mode 140 db **Harmonics** 99% **Response time:** instantaneous **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Voltmeter; Ammeter ☐ Portable **Units sold:** 230 since 1984 **Cost:** $690

PULIZZI ENGINEERING, INC.

☐ LPC115-4
AC Input: 125V, 240V; 1 ph; 60Hz; 50Hz **AC Output:** 125V, 240V; 1.5, 2.8 kva; 1ph; Sine wave **Efficiency:** 100% **Suppression:** Common mode: 55 db at 20 MHz; Transverse mode 55 db at 20 MHz **Response time:** 50 ns **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Introduced:** 1983 **Cost:** $150

☐ PC115
AC Input: 125V, 240V; 1 ph; 50Hz; 60Hz **AC Output:** 125V, 240V; 1.5, 2.8 kva; 1ph; Sine wave **Efficiency:** 100% **Suppression:** Common mode: 55 db at 20 MHz; Transverse mode 55 db at 20 MHz **Response time:** 50 ns **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp; Local/ remote switch **Introduced:** 1982 **Cost:** $292-$372

☐ TPC115-8
AC Input: 125V, 240V; 1 ph; 50Hz; 60Hz **AC Output:** 125V, 240V; 1.5, 2.8 kva; 1ph; Sine wave **Efficiency:** 100% **Suppression:** Common mode: 55 db at 20 MHz; Transverse mode 55 db at 20 MHz **Response time:** 50 ns **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp **Introduced:** 1983 **Cost:** $148-$249

RTE DELTEC CORP.

☐ MPC1260
AC Input: 86-135V; 1 ph; 60Hz; 50Hz **AC Output:** 120V; 1 kva; 1ph; Sine wave **Efficiency:** 94% **Regulation:** (-)9 to (+)5% **Method of regulation:** Electronic **Suppression:** Common mode: 140 db; Transverse mode 60 db **Harmonics** 1% **Response time:** 1 cycle **Isolation transformer:** 0.001 pf interwinding capacitance; 4,000 VAC dielectric strength ☐ Input circuit breaker **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 460 since 1982 **Cost:** $625

☐ MPC2060
AC Input: 86-135V; 1 ph; 60Hz; 50Hz **AC Output:** 120V, 220V, 240V; 2 kva; 1ph; Sine wave **Efficiency:** 94% **Regulation:** (-)9 to (+)5% **Method of regulation:** Electronic **Suppression:** Common mode: 140 db; Transverse mode 55 db **Response time:** 1 cycle **Isolation transformer:** 0.001 pf interwinding capacitance; 4,000 VAC dielectric strength **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 375 since 1982 **Cost:** $1,060

☐ MPC560
AC Input: 86-135V; 1 ph; 60Hz **AC Output:** 120V; 0.5 kva; 1ph; Sine wave **Efficiency:** 94% **Regulation:** (-)9 to (+)5% **Method of regulation:** Electronic **Suppression:** Common mode: 140 db; Transverse mode 60 db **Harmonics** 1% **Response time:** 1 cycle **Isolation transformer:** 0.001 pf interwinding capacitance; 4,000 VAC dielectric strength ☐ Input circuit breaker **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 675 since 1982 **Cost:** $495

☐ OPC Series
AC Input: 90-135V; 1 ph; 60Hz **AC Output:** 120V; 0.5-2 kva; 1ph; Sine wave **Efficiency:** 94% **Regulation:** (-)9 to (+)5% **Harmonics** 1% **Response time:** 1 cycle **Protected against:** Overvoltage; Overload **Introduced:** 1985 **Cost:** $445

SHAPE MAGNETRONICS, INC.

☐ Line Tamer Ferroresonant Transformer (0.03-0.5 Kva)
AC Input: 120V, 120/240V, 120/208/240V, 240/280V, 110V, 110/220V; 1 ph; 50Hz; 60Hz **AC Output:** 120V, 120/240V, 480V, 208/120V, 110/220V, 120/208/240V; 0.03-0.5 kva; 1ph; Sine wave **Efficiency:** 92% **Regulation:** (±)3% **Method of regulation:** Ferroresonant constant voltage transformer **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 95-97% **Response time:** instantaneous **Isolation transformer:** 2 pf interwinding capacitance **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Introduced:** 1979 **Cost:** $118 (0.03 Kva); $1,120 (2 Kva)

☐ Line Tamer Ferroresonant Transformer (0.75-2 Kva)
AC Input: 120V, 120/240V, 120/208/240V, 240/280V, 110V, 110/220V; 1 ph; 50Hz; 60Hz **AC Output:** 120V, 120/240V, 480V, 208/120V, 110/220V, 120/208/240V; 0.75-2 kva; 1ph; Sine wave **Efficiency:** 92% **Regulation:** (±)3% **Method of regulation:** Ferroresonant constant voltage transformer **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 95-97% **Response time:** instantaneous **Isolation transformer:** 2 pf interwinding capacitance **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Introduced:** 1979

☐ Line Tamer Ferroresonant Transformer (2.5-10 Kva)
AC Input: 120V, 120/240V, 120/208/240V, 240/280V, 110V, 110/220V; 1 ph; 50Hz; 60Hz **AC Output:** 120V, 120/240V, 480V, 208/120V, 110/220V, 120/208/240V; 2.5-10 kva; 1ph; Sine wave **Efficiency:** 92% **Regulation:** (±)3% **Method of regulation:** Ferroresonant constant voltage transformer **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 95-97% **Response time:** instantaneous **Isolation transformer:** 2 pf interwinding capacitance **Protected against:** Overvoltage; Overload; Short circuit **Introduced:** 1972

☐ PC Line Tamer
AC Input: 100-130V; 1 ph; 60Hz **AC Output:** 120V; 0.15, 0.3, 0.45, 0.6 kva **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** instantaneous **Protected against:** Short circuit ☐ Portable

SOLA ELECTRIC
(unit of General Signal)

☐ Model 63-13-070 thru 63-13-150
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 0.07-0.5 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** instantaneous **Isolation transformer:** less than 3 pf interwinding capacitance **Load regulation:** 95% **Protected against:** Overload; Short circuit ☐ Portable **Introduced:** 1974 **Cost:** $150-$370

☐ Model 63-13-175; 63-13-210; 63-13-220
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 0.75-2.0 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** instantaneous **Isolation transformer:** less than 3 pf interwinding capacitance **Load regulation:** 95% **Protected against:** Overload; Short circuit ☐ Portable **Introduced:** 1974 **Cost:** $500-$1,000

☐ Model 63-23-112-4 thru 63-23-150-8
AC Input: 95-130/175-235/190-260/380-520V; 1 ph; 60Hz **AC Output:** 120/208/240V; 0.12, 0.25, 0.5 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** instantaneous **Isolation transformer:** less than 3 pf interwinding capacitance; 1,-500 VAC dielectric strength **Load regulation:** 95% **Protected against:** Overload; Short circuit **Introduced:** 1978 **Cost:** $175-$350

☐ Model 63-23-175-8 thru 63-23-220-8
AC Input: 95-130/175-235/190-260/380-520V; 1 ph; 60Hz **AC Output:** 120/208/240V; 0.75, 1, 1.5, 2 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** instantaneous **Isolation transformer:** less than 3 pf interwinding capacitance; 1,-500 VAC dielectric strength **Load regulation:** 95% **Protected against:** Overload; Short circuit **Introduced:** 1978 **Cost:** $450-$900

☐ Model 93-13-150
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 0.5 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** instantaneous **Isolation transformer:** less than 3 pf interwinding capacitance; 1,500 VAC dielectric strength **Load regulation:** 95% **Protected against:** Overload; Short circuit **Status indicators:** Voltmeter; Ammeter ☐ Portable **Introduced:** 1984 **Cost:** $719; $880; $1,406

☐ Model 93-13-210; 93-13-220
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 1, 2 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** instantaneous **Isolation transformer:** less than 3 pf interwinding capacitance; 1,500 VAC dielectric strength **Load regulation:** 95% **Protected against:** Overload; Short circuit **Status indicators:** Voltmeter; Ammeter ☐ Portable **Introduced:** 1984 **Cost:** $900-$1,400

SOLIDSTATE CONTROLS, INC.

☐ Power Line Conditioner (1 Kva)
AC Input: 96-132V; 1 ph; 60Hz **AC Output:** 120V; 1 kva; 1ph; Sine wave **Efficiency:** 95% **Regulation:** (+)4%; (-)6% **Method of regulation:** Electronic **Suppression:** Common mode: 80 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 8 ms **Isolation transformer:** 0.1-0.01 pf interwinding capacitance; 2,-000 VAC dielectric strength **Load regulation:** 97% ☐ Individual circuit breakers on output lines **Protected against:** Overload; Short circuit **Status indicators:** Lamp **Introduced:** 1984 **Cost:** $580-$600

SUPERIOR ELECTRIC CO.

☐ CR7101PCU
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 0.14 kva; 1ph; Sine wave **Efficiency:** 75% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 40 db **Harmonics** 97% **Response time:** 25 ms **Isolation transformer:** 3 pf interwinding capacitance; 2,000 VAC dielectric strength **Load regulation:** 97% **Protected against:** Overload; Short circuit ☐ Portable **Introduced:** 1979 **Cost:** $210

☐ CR7102PCU
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 0.25 kva; 1ph; Sine wave **Efficiency:** 85% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 40 db **Harmonics** 97% **Response time:** 25 ms **Isolation transformer:** 3 pf interwinding capacitance; 2,000 VAC dielectric strength **Load regulation:** 97% **Protected against:** Overload; Short circuit ☐ Portable **Introduced:** 1979 **Cost:** $250

☐ CR7105PCU
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 0.5 kva; 1ph; Sine wave **Efficiency:** 85% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 40 db **Harmonics** 97% **Response time:** 25 ms **Isolation transformer:** 3 pf interwinding capacitance; 2,000 VAC dielectric strength **Load regulation:** 97% **Protected against:** Overload; Short circuit ☐ Portable **Introduced:** 1979 **Cost:** $369

☐ CR7110PCU
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 1 kva; 1ph; Sine wave **Efficiency:** 85% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 40 db **Harmonics** 97% **Response time:** 25 ms **Isolation transformer:** 3 pf interwinding capacitance; 2,000 VAC dielectric strength **Load regulation:** 97% **Protected against:** Overload; Short circuit ☐ Portable **Introduced:** 1979 **Cost:** $548

☐ CR7120PCU
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 2 kva; 1ph; Sine wave **Efficiency:** 85% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 40 db **Harmonics** 97% **Response time:** 25 ms **Isolation transformer:** 3 pf interwinding capacitance; 2,000 VAC dielectric strength **Load regulation:** 97% **Protected against:** Overload; Short circuit ☐ Portable **Introduced:** 1979 **Cost:** $934

SURGEONICS, LTD.

☐ Power Sentry 2
AC Input: 120V; 1 ph; 60Hz **AC Output:** 120V; 1.8 kva; 1ph; Sine wave **Method of regulation:** Electronic **Suppression:** Common mode: 14 db at 150 kHz-30 MHz; Transverse mode 10 db at 50 kHz to 50 db at 50 MHz **Response time:** 50 ps **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 10,000 since 1980 **Cost:** $50

☐ Power Sentry 4
AC Input: 120V; 1 ph; 60Hz **AC Output:** 120V; 1.8 kva; 1ph; Sine wave **Suppression:** Common mode: 14 db at 150 kHz-30 MHz **Response time:** 60 ps **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Units sold:** 3,000 since 1982 **Cost:** $70

☐ TL 700
AC Input: 120V; 1 ph; 60Hz **AC Output:** 120V; 1.8 kva; 1ph; Sine wave **Response time:** 60 ps **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp **Units sold:** 500 since 1975 **Cost:** $220

TELEDYNE BIG BEAM

☐ Power Dyne I (0.5 Kva)
AC Input: 120V, 208V, 240V, 480V; 1 ph; 60Hz **AC Output:** 120V, 208V, 240V; 0.5 kva; 1ph **Efficiency:** 90% **Regulation:** (±)3% **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 25 ms **Isolation transformer:** 0.002 pf interwinding capacitance **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Audible alarm

☐ Power Dyne I (0.75-2 Kva)
AC Input: 120V, 208V, 240V, 480V; 1 ph; 60Hz **AC Output:** 120V, 208V, 240V; 0.75, 2 kva; 1ph **Efficiency:** 90% **Regulation:** (±)3% **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 25 ms **Isolation transformer:** 0.002 pf interwinding capacitance **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Audible alarm

TOPAZ, INC.

☐ Line 2 Power Conditioner (0.4-2 Kva)
AC Input: 170-250V, 87-135V; 1 ph; 50Hz; 60Hz **AC Output:** 220V, 117V; 0.4, 0.5, 1, 1.6, 2 kva; 1ph; Sine wave **Efficiency:** 94% **Regulation:** (±)7% **Suppression:** Common mode: 140 db from 10 Hz to 1 MHz; Transverse mode 55 db at 100 kHz **Harmonics** 98% **Response time:** 1 cycle **Isolation transformer:** 0.001 pf interwinding capacitance; 2,500 VAC dielectric strength **Protected against:** Overload ☐ Portable **Cost:** $495-$1,060

TRIAD-UTRAD

☐ KO-0200 thru K6-1332
AC Input: 120V; 1 ph; 60Hz **AC Output:** 120V; 0.03-2 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)1% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** ½ cycle **Isolation transformer:** 2.5 pf interwinding capacitance; 1,500 VAC dielectric strength **Load regulation:** 96% **Protected against:** Overvoltage; Overload; Short circuit **Introduced:** 1984 **Cost:** $104-$913

☐ K6-0400 thru K6-1300
AC Input: 95-130V; 1 ph; 60Hz **AC Output:** 120V; 0.07-2 kva; 1ph; Sine wave **Efficiency:** 90% **Regulation:** (±)3% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 120 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 3 ms **Isolation transformer:** 2.5 pf interwinding capacitance; 1,500 VAC dielectric strength **Load regulation:** 96% **Protected against:** Overvoltage; Overload; Short circuit ☐ Portable **Units sold:** 1,000 since 1982 **Cost:** $169-$1,075

TRIPP LITE
(division of Trippe Manufacturing Co., Inc.)

☐ IBAR 2-6; IBAR 4-6; IBAR 8-15
AC Input: 117V; 1 ph; 60Hz **AC Output:** 117V; 1.825 kva; 1ph; Sine wave **Efficiency:** 98% **Method of regulation:** Electronic **Suppression:** Common mode: 6 db at 500 kHz; Transverse mode 12 db at 1 MHz **Response time:** 5 ns **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Introduced:** 1980 **Cost:** $60-$110

☐ LS-600; LC-1200; LC-1800
AC Input: 87-127V; 96-126V; 1 ph; 60Hz **AC Output:** 120V; 0.6, 1.2, 1.8 kva; 1ph; Sine wave **Efficiency:** 98% **Method of regulation:** Electromechanical **Suppression:** Common mode: 6 db at 500 kHz; Transverse mode 12 db at 1 MHz **Response time:** ½ cycle **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Lamp ☐ Portable **Introduced:** 1979 **Cost:** $119; $219; $299

DISTRIBUTED POWER SUPPLIES

BEHLMAN ENGINEERING

☐ Model KBT-10 thru KBT-50
AC Input: 115/230V; 1 ph; 48-72Hz **AC Output:** 115/230V; 0.1-0.5 kva; 1ph; Sine wave **Efficiency:** 50-65% **Regulation:** (±)0.2% **Harmonics** 1% **Response time:** 100 ms ☐ Isolation transformer ☐ Input circuit breaker ☐ Individual circuit breakers on output lines ☐ Remote emergency shut-off **Protected against:** Overvoltage; Overload **Status indicators:** Lamp **Introduced:** 1983

☐ Model KBT-75 thru KBT-200
AC Input: 115/230V, 120/208V; 1 ph; 400Hz; 48-72Hz **AC Output:** 115/230V, 120/208V; 0.75-2 kva; 1ph; Sine wave **Efficiency:** 50-65% **Regulation:** (±)0.2% **Harmonics** 1% **Response time:** 100 ms ☐ Isolation transformer ☐ Input circuit breaker ☐ Individual circuit breakers on output lines ☐ Remote emergency shut-off **Protected against:** Overvoltage; Overload **Status indicators:** Lamp **Introduced:** 1983

☐ Model KBT2-10; KBT2-25
AC Input: 115/230V; 1 ph; 400Hz; 48-72Hz **AC Output:** 115/230V; 0.2, 0.5 kva; Sine wave **Efficiency:** 50-65% **Regulation:** (±)0.2% **Harmonics** 1% **Response time:** 100 ms ☐ Isolation transformer ☐ Input circuit breaker ☐ Individual circuit breakers on output lines ☐ Remote emergency shut-off **Protected against:** Overvoltage; Overload **Status indicators:** Lamp **Introduced:** 1983

☐ Model KBT2-35 thru KBT2-100
AC Input: 115/230V, 120/208V; 1 ph; 400Hz; 48-72Hz **AC Output:** 115/230V, 120/208V; 0.7-2 kva; Sine wave **Efficiency:** 50-65% **Regulation:** (±)0.2% **Harmonics** 1% **Response time:** 100 ms ☐ Isolation transformer ☐ Input circuit breaker ☐ Individual circuit breakers on output lines ☐ Remote emergency shut-off **Protected against:** Overvoltage; Overload **Status indicators:** Lamp

☐ STD Series (0.15-0.5 Kva)
AC Input: 115V, 230V, 120/208V, 220/380V, 460V; 1 ph; 3ph wye; 3ph delta; 50Hz; 60Hz; 400Hz **AC Output:** 115V, 230V, 120/208V, 220/380V, 460V; 0.15-0.5 kva; 1ph; 3ph wye; 3ph delta; Sine wave **Efficiency:** 50-65% **Regulation:** (±)0.5% **Harmonics** 0.5% ☐ Isolation transformer ☐ Input circuit breaker ☐ Individual circuit breakers on output lines **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Voltmeter; Lamp **Introduced:** 1968

☐ STD Series (0.75-1.5 Kva)
AC Input: 115V, 230V, 120/208V, 220/380V, 460V; 1 ph; 3ph wye; 3ph delta; 50Hz; 60Hz; 400Hz **AC Output:** 115V, 230V, 120/208V, 220/380V, 460V; 0.75-1.5 kva; 1ph; 3ph wye; 3ph delta; Sine wave **Efficiency:** 50-65% **Regulation:** (±)0.5% **Harmonics** 0.5% ☐ Isolation transformer ☐ Input circuit breaker ☐ Individual circuit breakers on output lines **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Voltmeter; Lamp **Introduced:** 1968

☐ STD Series (2-9 Kva)
AC Input: 115V, 230V, 120/208V, 220/380V, 460V; 1 ph; 3ph wye; 3ph delta; 50Hz; 60Hz; 400Hz **AC Output:** 115V, 230V, 120/208V, 220/380V, 460V; 2-9 kva; 1ph; 3ph wye; 3ph delta; Sine wave **Efficiency:** 50-65% **Regulation:** (±)0.5% **Harmonics** 0.5% ☐ Isolation transformer ☐ Input circuit breaker ☐ Individual circuit breakers on output lines **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Voltmeter; Lamp **Introduced:** 1968

POWER DISTRIBUTION, INC.

☐ Computer Shield Series III (0.25-0.5 Kva)
AC Input: 120V, 208V, 240V; 1 ph; 50Hz; 60Hz; 400Hz **AC Output:** 120/240V; 0.25, 0.5 kva; 1ph; Sine wave **Efficiency:** 95% **Regulation:** (±)2% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 140 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 32 ms **Isolation transformer:** 7 pf interwinding capacitance; 1,000 VAC dielectric strength ☐ Input circuit breaker ☐ Individual circuit breakers on output lines **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Voltmeter; Ammeter; Lamp ☐ Portable

☐ Computer Shield Series III (0.75-2 Kva)
AC Input: 120V, 208V, 240V; 1 ph; 50Hz; 60Hz; 400Hz **AC Output:** 120V, 240V; 0.75, 1, 2 kva; 1ph; Sine wave **Efficiency:** 95% **Regulation:** (±)2% **Method of regulation:** Ferroresonant **Suppression:** Common mode: 140 db; Transverse mode 60 db **Harmonics** 97% **Response time:** 32 ms **Isolation transformer:** 7 pf interwinding capacitance; 1,000 VAC dielectric strength ☐ Input circuit breaker ☐ Individual circuit breakers on output lines **Protected against:** Overvoltage; Overload; Short circuit **Status indicators:** Voltmeter; Ammeter; Lamp

SL WABER, INC.
(subsidiary of SL Industries, Inc.)

☐ DG-SST
AC Input: 120V; 1 ph; 50Hz; 60Hz **AC Output:** 120V; 1.875 kva; 1ph **Suppression:** Common mode: 10-30 db; Transverse mode 20-40 db; 3,000 VAC dielectric strength ☐ Input circuit breaker **Protected against:** Short circuit **Status indicators:** Lamp ☐ Portable **Introduced:** 1984 **Cost:** $159

☐ DG-10/LG-10; DG-10/LG-20
AC Input: 120V; 1 ph; 50Hz; 60Hz; 400Hz **AC Output:** 120V; 1.875 kva; 1ph; Sine wave; 3,000 VAC dielectric strength **Status indicators:** Lamp ☐ Portable **Cost:** $20-$55

☐ DG-115P; DG-115S
AC Input: 120V; 1 ph; 50Hz; 60Hz; 400Hz **AC Output:** 120V; 1.875 kva; 1ph; Sine wave; Transverse mode 15-30 db; 3,000 VAC dielectric strength ☐ Input circuit breaker **Protected against:** Short circuit **Status indicators:** Lamp ☐ Portable

☐ DG-315S; DG-315P; DG-315R

AC Input: 120V; 1 ph; 50Hz; 60Hz; 400Hz **AC Output:** 120V; 1.875 kva; 1ph; Sine wave **Suppression:** Common mode: 10-30 db; Transverse mode 20-40 db; 3,000 VAC dielectric strength ☐ Input circuit breaker **Protected against:** Short circuit **Status indicators:** Lamp ☐ Portable

☐ LM-1100; LM-1200; LM-2100; LM-2200
AC Input: 120V; 1 ph; 50Hz; 60Hz; 400Hz **AC Output:** 120V; 1.875 kva; 1ph; Sine wave; 3,000 VAC dielectric strength ☐ Input circuit breaker **Protected against:** Short circuit **Status indicators:** Lamp ☐ Portable

☐ LM-3100; LM-3200; LM3300
AC Input: 120V; 1 ph; 50Hz; 60Hz; 400Hz **AC Output:** 120V; 1.875 kva; 1ph; Sine wave **Suppression:** Common mode: 10-30 db; Transverse mode 20-40 db; 3,000 VAC dielectric strength ☐ Input circuit breaker **Protected against:** Short circuit **Status indicators:** Lamp ☐ Portable

ACCESSORIES

BAR CODE/MAGNETIC STRIPE READERS

AEDEX CORP.

☐ BCS-150
Hardware required: IBM PC, XT, AT and compatibles **Description:** Expansion board and digital wand reads all five major bar code symbologies; generates codes on graphics printers **Units sold:** 4,000 since 1984 **Cost:** $495-$995

ALLOY COMPUTER PRODUCTS, INC.
SEE AD ON PAGE 129

☐ PC-Card
Hardware required: IBM PC, XT, AT and compatibles **Description:** Standalone or keyboard configuration **Units sold:** 800 since 1984 **Cost:** $395

ATLANTIC COMPUTER PRODUCTS, INC.

☐ Bar Code Reader
Hardware required: IBM PC, XT, AT and compatibles **Description:** Recognizes UPC, EAN, 2 of 5, 3 of 9 and CODABAR; bi-directional scanning; portable

BAR/CODE, INC.

☐ BC Fox/PC
Hardware required: IBM PC, XT, AT **Description:** Recognizes 17 bar codes including Code 3 of 9, Interleaved 2 of 5, Code bar, UPC-A and UPC-E; 3-30 inches per second read speed; bar code wand input **Units sold:** 100 since 1984 **Cost:** $595-$895

☐ BC101
Hardware required: IBM PC; TI; RS-232C **Description:** Code 3 of 9; Interleaved 2 of 5; Codabar; UPC-A; UPC-E **Introduced:** 1983 **Cost:** $795 (includes wand)

☐ BC102
Hardware required: IBM PC; TI; RS-232C **Description:** Code 3 of 9; Interleaved 2 of 5; Codabar; UPC-A; UPC-E **Units sold:** 200 since 1983 **Cost:** $595 (includes wand)

☐ BC103
Hardware required: IBM PC; TI; RS-232C **Description:** Code 3 of 9; Interleaved 2 of 5; Codabar; UPC-A; UPC-E **Units sold:** 150 since 1984 **Cost:** $1,195-$1,395

CAERE CORP.

☐ PCSCANNER II, 245-295
Hardware required: IBM PC and compatibles **Description:** Reads Code 3 of 9, UPC, EAN and Interleaved 2 of 5; requires full expansion slot; program transparency; accepts input from a bar-code pen or hand held laser; optional bar code printing available **Units sold:** 230 since 1985 **Cost:** $506-$556

COMPUTER IDENTICS

☐ Scanstar-PC
Hardware required: IBM PC **Introduced:** 1985 **Cost:** $695 (incl. pen)

DATAFLOW TECHNOLOGIES, INC.

☐ Bar Code Spooler/Converter
Hardware required: IBM PC, XT, AT, jr; Apple **Description:** Prints Code 39 and UPC-A bar code symbologies; functions as conventional spooler; parallel I/O ports, 64K of memory, cable and documentation; optional RS-232C card **Cost:** $750

DEST CORP.

☐ PC Scan
Hardware required: IBM PC **Description:** Character recognition processor and image capturing, scanning 300 dots per inch **Introduced:** 1986

ELECTRONIC INFORMATION TECHNOLOGY, INC.

☐ EIT-PS
Hardware required: IBM PC and compatibles **Description:** Converts typewritten documents, printed matter, pictures, technical drawings and other visual information into electrical files **Units sold:** 5,000 since 1985 **Cost:** $2,495

HAND HELD PRODUCTS, INC.

☐ Micro-Wand II
Hardware required: IBM PC, XT, AT **Description:** 8-bit microprocessor; 32K RAM, 32K ROM; date/time clock; alphanumeric keyboard; reads Code 3 of 9, Codabar and EAN/UPC; battery operated

ICS
(division of Action Instruments)

☐ BCS100/150
Hardware required: IBM PC, XT, AT and compatibles **Description:** Generates bar code graphics on printers; reads five major bar code symbols; connects to PC bus **Introduced:** 1984 **Cost:** $1,125

MAXTRON

☐ XT-15A
Hardware required: IBM PC **Description:** Reads bar density up to 0.19mm; bi-directional scanning **Cost:** $298

NEW WAVE SYSTEMS

☐ CYC-PT; CYC-48; CYC-IB
Hardware required: IBM PC, XT, AT, Portable and compatibles **Description:** Power derived from host computer; operates in-line with keyboard; results from barcode read appear as keystrokes to application program **Units sold:** 700 since 1982 **Cost:** $595

NEWER TECHNOLOGY

☐ Sceptre
Hardware required: IBM PC, XT, AT and compatibles **Description:** Custom programming interface, bar-code wand and cable **Units sold:** 100 **Cost:** $495

PERCON (PERIPHERAL CONNECTIONS, INC.)

☐ Model 303C
Hardware required: RS-232C **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1983 **Cost:** $635

☐ Model 305C
Hardware required: RS-232C **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1983 **Cost:** $744

☐ Model 307C
Hardware required: RS-232C **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1983 **Cost:** $744

☐ Model 309C
Hardware required: RS-232C **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1983 **Cost:** $744

☐ Model 313C
Hardware required: IBM PC, XT and compatibles **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1983 **Cost:** $635

☐ Model 315C
Hardware required: IBM PC, XT and compatibles **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1983 **Cost:** $744

☐ Model 317C
Hardware required: IBM PC, XT and compatibles **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1983 **Cost:** $744

☐ Model 319C
Hardware required: IBM PC, XT and compatibles **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto recognition **Introduced:** 1983 **Cost:** $744

☐ Model 323C
Hardware required: IBM PC AT and compatibles **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1983 **Cost:** $635

☐ Model 325C
Hardware required: IBM PC AT and compatibles **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1984 **Cost:** $744

☐ Model 327C
Hardware required: IBM PC AT and compatibles **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1984 **Cost:** $744

☐ Model 329C
Hardware required: IBM PC AT and compatibles **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1984 **Cost:** $744

☐ Model 343C
Hardware required: AT&T 6300, 6300 Plus; Olivetti; Xerox **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC EAN, UPC E, UPC A, Codabar and Codabar ABC; auto-recognition **Introduced:** 1986 **Cost:** $635

☐ Model 347C
Hardware required: AT&T 6300, 6300 Plus; Olivetti; Xerox 6064, 6065 **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC EAN, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1986 **Cost:** $744

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☐ Model 402A
Hardware required: RS-232C **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC EAN, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1986

☐ Model 412A
Hardware required: IBM PC, XT and compatibles **Description:** Single code decoding of Code 39, Interleaved 2 of 5, UPC/EAN, UPC A, UPC E, Codabar and Codabar ABC; auto-recognition **Introduced:** 1986

SYSCODE, INC.

☐ BarBoard
Hardware required: IBM PC, XT, AT and compatibles **Description:** Uses short slot and communicates directly with PC Bus; generates bar codes on graphics printers; includes software **Cost:** $595

TPS ELECTRONICS

☐ PC-300
Hardware required: IBM PC, AT, jr **Description:** Bar code reader; transparent operation without requiring additional software, port or card slots; connects between keyboard and terminal; emulates keyboard input **Introduced:** 1983 **Cost:** $795

☐ PC-3000
Hardware required: IBM PC, AT, jr **Description:** Magnetic stripe/bar code reader; transparent operation without requiring additional software, port or card slots; connects between keyboard and terminal; emulates keyboard input **Introduced:** 1983 **Cost:** $995

☐ PC-500
Hardware required: IBM PC, AT, jr **Description:** Magnetic stripe reader; transparent operation without requiring additional software, port or card slots; connects between keyboard and terminal; emulates keyboard input **Introduced:** 1983 **Cost:** $695

☐ PC-5000
Hardware required: IBM PC, AT **Description:** Encodes track 1 (alpha-numeric) or track 2 (numeric) of standard magnetic card through RS-232C port; reads magnetic cards using keyboard cable **Introduced:** 1986 **Cost:** $1,295

VIDEX, INC.

☐ Bar Code Reader
Hardware required: Apple II, Macintosh; IBM PC and compatibles **Description:** Portable; built-in clock, 16K RAM and rechargeable battery **Introduced:** 1985 **Cost:** $248

WELCH ALLYN
Industrial Products Division

☐ HBD-100
Hardware required: IBM PC, XT, AT **Description:** Interface boards and industrial grade low resolution visible red scanner; reads Code 3 of 9, CODABAR, Interleaved 2 of 5, UPC and EAN **Cost:** $695

CAMERAS

DIGITAL VISION, INC.

☐ Computereyes
Hardware required: Apple II; IBM PC and compatibles **Description:** Slow-scan device connects between standard video source and user I/O port **Units sold:** 5,000 since 1984 **Cost:** $130-$250

FOCUS GRAPHICS, INC.

☐ VideoSlide 35
Hardware required: IBM PC; Apple **Description:** Connects directly to 9-pin plug on PC Color/Graphics Adaptor; compatible with RS-170 monitors **Units sold:** 1,500 since 1982 **Cost:** $3,-299-$3,899

GENIGRAPHICS CORP.

☐ PS-4000
Hardware required: IBM PC **Description:** Records 35mm slides and 7" X 9" transparencies; 2,048/4,096 line X 4,096 element display resolution

MICRON TECHNOLOGY, INC.
Systems Group

☐ Idetix Digital Imaging System
Hardware required: IBM PC, XT, AT **Description:** MOS sensor-based camera with C Mount lens; 1,024 X 512 resolution **Units sold:** 100 since 1986 **Cost:** $695

☐ MicronEye Bullet
Hardware required: Apple; TRS-80; IBM PC, XT, AT; Commodore 64 **Description:** Applications include: character recognition; signature verification; fingerprint classification; automated visual inspection; surveillance and motion detection; time-lapse motion studies; measuration; telescope tracking system; robot vision; 128 X 256 resolution **Units sold:** 4,500 since 1982 **Cost:** $295

CASH REGISTERS

D.G.M. CORP.

☐ R650 Interface
Hardware required: IBM PC **Software required:** DGM **Description:** Establishes data communications link between Sweda L-45 or L-50 Cash Register System (up to 31 registers) and computer; computer connection via RS-232C plug connector or 103-compatible telephone modem for communication to remote site **Units sold:** 450 since 1983 **Cost:** $1,495

INDIANA CASH DRAWER CO.

☐ EL4/EL5
Hardware required: IBM PC; Apple **Description:** Hardwood cash drawer; lock-on cover **Cost:** $210-$470

☐ SL Series
Hardware required: IBM PC; Apple **Description:** Steel cash drawer; money tray with lock-on cover; mechanical gong **Cost:** $210-$450

RETAIL SOLUTIONS, INC.

☐ The Retailer
Hardware required: IBM PC XT, AT **Description:** Integrated system consists of cash register and application software for inventory control, purchasing and receiving, point-of-sale and mail list with optional AR, AP, GL **Units sold:** 5,000 since 1983 **Cost:** $2,500-$3,250

STANDARD SOFTWARE SYSTEMS, INC.

☐ S-10
Hardware required: IBM PC and compatibles **Software required:** Level A: POS + Inventory; Level B: Retail + POS; Level C: Rental + POS **Description:** Metal cash drawer with RS-232C port; locks, coin trays and adjustable bill compartments **Cost:** $395

DATA ACQUISITION

ACTION INSTRUMENTS

☐ Octapak
Hardware required: IBM PC; Apple II **Description:** Eight-channel data acquisition module; interfaces industrial or lab sensors up to 4,000 feet away; supports combination of voltage, current, thermocouple, RTD and frequency inputs; up to 128 channels on single RS-232C or RS-422 communication line and 500V isolation **Cost:** $495

ANAFAZE, INC.

☐ 8 MCS
Hardware required: IBM PC and compatibles **Software required:** Anasoft **Description:** Combines measurement, calibration, signal conditioning, control, and communications; 28 analog inputs and eight control outputs **Units sold:** 100 since 1983 **Cost:** $995

DATA WORLD PRODUCTS

☐ Sensatrol
Hardware required: RS-232C **Description:** Measurement and control interface for microcomputers **Introduced:** 1985 **Cost:** $425

DIANACHART, INC.

☐ Acquisitor
Hardware required: IBM PC; Apple **Description:** Handles 14-48 input channels ranging from 0.3 microVolts to 10 Volts; auto-ranging **Cost:** $1,995-$2,690

KEITHLEY DAS

☐ Series 500
Hardware required: IBM PC, XT, Portable; Apple II+, IIe; Compaq Portable **Software required:** Soft500 **Description:** Data acquisition in background and simultaneous real-time analysis, control and display in foreground

KIRBY LESTER, INC.

☐ Microlink
Hardware required: IBM PC and compatibles **Description:** 40 modules including timers, counters, temperature and RS-232C inputs; analog and digital I/Os **Units sold:** 500 since 1982 **Cost:** $3,500

MICRO R & D, INC.

☐ MW-201
Hardware required: IBM PC; Apple Macintosh **Description:** 16 analog inputs, 14 high current outputs, one analog output; connects to DB25S RS-232C port **Units sold:** 200 since 1985 **Cost:** $365

MODULAR INSTRUMENTS, INC.

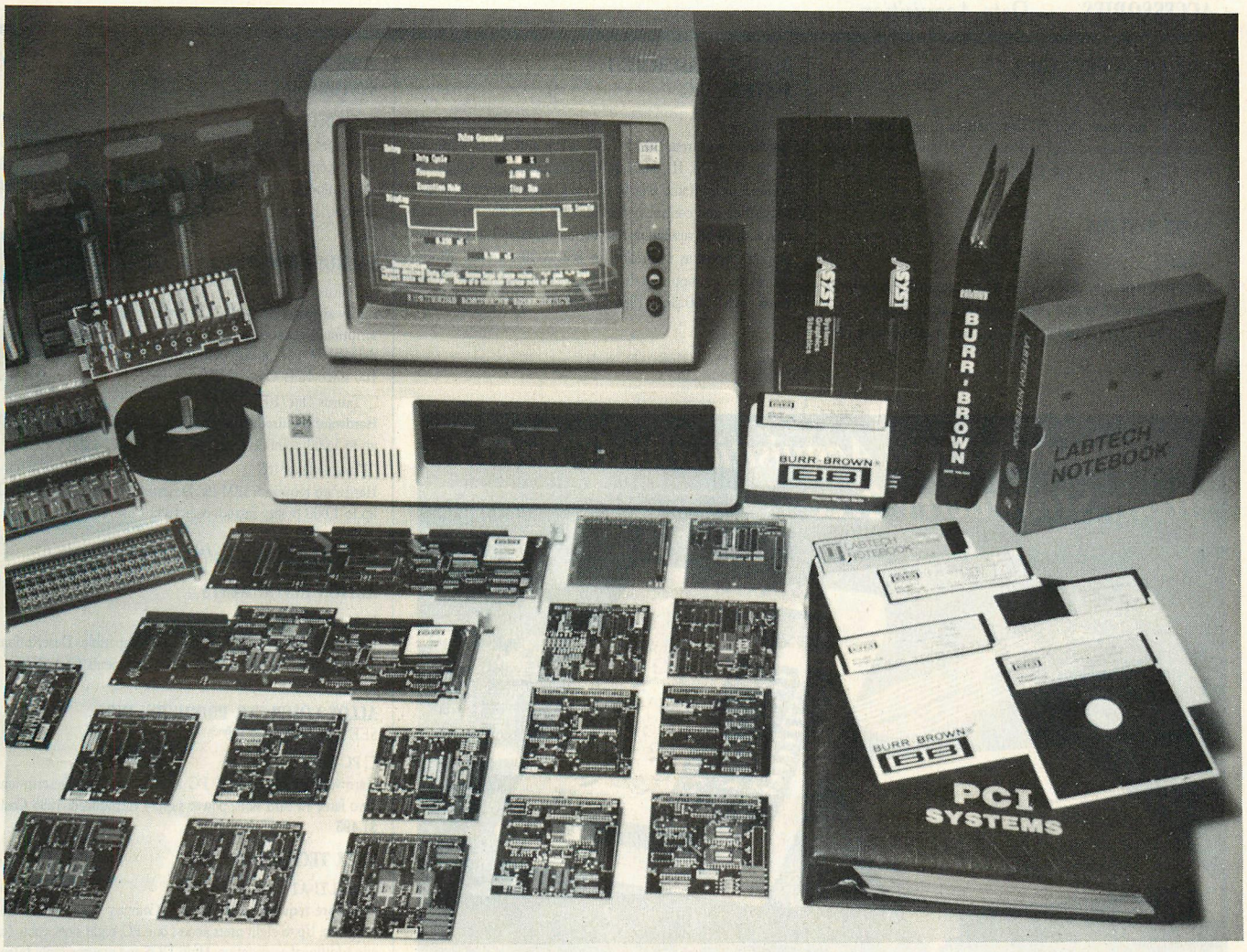
☐ Modular Interface
Hardware required: IBM PC, XT, AT **Software required:** BASICA **Description:** Slots accept different I/O modules; connections to modules are made with standard laboratory hardware **Introduced:** 1984 **Cost:** $2,300

MOORE PRODUCTS CO.

☐ MYCRO MIS System
Hardware required: IBM PC XT **Software required:** LOTUS 1-2-3; MYCRO Data Retrieval **Description:** Provides evaluation of plant performance; analyzes current plant operating conditions, e.g., energy information management for boilers, turbines and compressors; analysis of heat exchangers, condensors and other process equipment; chemical stream composition; plant cost summaries of overall production against operating costs

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NEFF INSTRUMENT CORP.

☐ System 470
Hardware required: IBM PC **Description:** Analog input channels are acquired and digitized at rates to 10,000/second with resolution of 16 bits **Cost:** $5,380

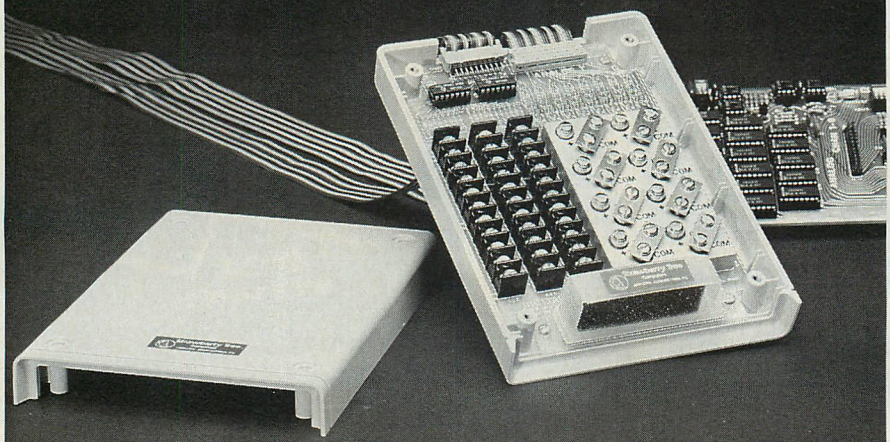
RAPID SYSTEMS

☐ 4X4
Hardware required: IBM PC, XT, AT and compatibles **Description:** Digital oscilloscope peripheral with four channels, each with its own A/D converter; 128K data buffer **Introduced:** 1986 **Cost:** $1,995

REMOTE MEASUREMENT SYSTEMS, INC.

☐ ADC-1
Hardware required: IBM PC, XT, AT, jr and compatibles; Apple II, II+, IIe, III, Macintosh; Commodore 64, Amiga; Osborne; Epson; Radio Shack; RS-232C **Description:** A/D data acquisition and control system offering 16 analog input channels with 13-bit resolution; four digital inputs and six controlled outputs; serves as controller for BSR X-10 series of AC-line carrier remote control modules; A/D sampling at rate of 100/sec **Units sold:** 1,200 since 1983 **Cost:** $449

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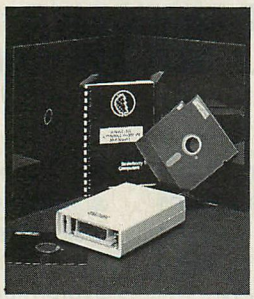


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SOPHOS INTEGRATED SYSTEMS, INC.

☐ Sisi-Box
Hardware required: IBM PC, XT, AT **Software required:** MS-DOS; Xenix **Description:** Interfaces via RS-232C or RS-422; applications include household automation/surveillance and industrial/laboratory process control **Introduced:** 1985 **Cost:** $1,250

TAURUS COMPUTER PRODUCTS, INC.

☐ Taurus
Hardware required: IBM PC **Software required:** T-Soft101 **Description:** Data acquisition board providing 16 analog inputs, 16 digital I/O, two analog outputs and four counters **Units sold:** 100 since 1984 **Cost:** $1,200

☐ Taurus One/10
Hardware required: IBM PC **Description:** Digital, analog I/O up to 1,000 points **Introduced:** 1982 **Cost:** $3,200

☐ Taurus One/10S
Hardware required: IBM PC **Description:** Digital, analog I/O up to 1,000 points **Introduced:** 1982 **Cost:** $3,200

EXPANSION CHASSIS

ACTION INSTRUMENTS

☐ Model XCH6
Hardware required: IBM PC, XT and compatibles **Description:** Six card slots; designed for harsh environments **Cost:** $795

ALLOY COMPUTER PRODUCTS, INC.
SEE AD ON PAGE 129

☐ PC-XBUS
Hardware required: IBM PC and compatibles **Description:** Two fans; 12 card slots; power supply **Introduced:** 1986 **Cost:** $1,495

ANEX TECHNOLOGY, INC.

☐ MULTI-AT
Hardware required: IBM PC AT; Compaq Deskpro 286 **Description:** Up to eight users access one PC; eight slots, cable for one additional workstation; Multi-DOS and power supply **Introduced:** 1985 **Cost:** $1,995-$3,765

☐ MULTI-PC
Hardware required: IBM PC, XT, Compaq Deskpro; Zenith PC150 or 160 **Description:** Expands single PC to four-user, multi-tasking system **Introduced:** 1984 **Cost:** $1,695-$2,285

ATLANTIC COMPUTER PRODUCTS, INC.

☐ Flip-top Case
Hardware required: IBM PC **Description:** Heavy gauge steel construction; anti-scratch powdered paint; flip-top access

☐ Slide-in Case
Hardware required: IBM PC **Description:** Heavy gauge steel construction; anti-scratch powdered paint; slide power switch

AVANT INDUSTRIES, INC.

☐ PC/XT/AT Case
Hardware required: IBM PC, XT, AT and compatibles **Description:** Flip-top type with anti-scratch paint **Cost:** $33-$90

DAYNA COMMUNICATIONS

☐ Expansion Chassis
Hardware required: IBM PC and compatibles; Apple Macintosh with MacCharlie **Description:** Six full length slots; power supply **Introduced:** 1986 **Cost:** $1,295

DESERT TECHNOLOGIES
(division of Desert Teksystems Corp.)

☐ EM103
Hardware required: IBM PC and compatibles **Description:** Bus expansion module that includes six full length card slots **Introduced:** 1986 **Cost:** $595

ENGEBRETSEN ENGINEERING

☐ PC-1
Hardware required: IBM PC **Description:** Includes 9" high resolution CRT, power supply, case and interface boards **Cost:** $899

FARADAY ELECTRONICS

☐ Card Cage
Hardware required: IBM PC, AT **Description:** Eight-slot backplane, power supply connector and stand-up card guides **Introduced:** 1986 **Cost:** $445

FORTRON CORP.

☐ FC-630 AT
Hardware required: IBM PC AT and compatibles **Description:** Keylock, key and full set of hardware accessories **Units sold:** 1,500 since 1985 **Cost:** $139

☐ FC-630A-2
Hardware required: IBM PC, XT **Description:** Eight and seven slots; requires additional power supply **Units sold:** 4,000 since 1984 **Cost:** $99

GALLANT INTERNATIONAL CORP.

☐ GIC-CS
Hardware required: IBM PC XT **Description:** Flip-top case with speaker **Cost:** $37

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Expansion Unit for PC
Reviewed Feb 1984 p. 75.
Hardware required: IBM PC; XT **Description:** 10 MB fixed disk drive and eight expansion slots. **Cost:** $3,395 (PC); $2,695 (XT)

ICS
(division of Action Instruments)

☐ XCH6/6531-XC
Hardware required: IBM PC **Description:** Six or ten slots in industrialized housing with integral, fan-cooled power supply **Units sold:** 100 since 1984 **Cost:** $995-$1,399

PRECISION INTERNATIONAL, INC.

☐ CAB-3068
Hardware required: IBM PC XT **Description:** 2 floppy drives; 1 hard disk and back-up tape drive

RACORE COMPUTER PRODUCTS, INC.

☐ Companions
Hardware required: IBM PC jr **Description:** Upgrades PC jr to XT; 10 MB fixed disk, clock/calendar with battery back-up, parallel printer port, memory expansion slot, power booster and graphics mode switch **Introduced:** 1985 **Cost:** $1,295

RELAX TECHNOLOGY

☐ Power Expansion 1
Hardware required: IBM PC, XT and compatibles **Description:** Internal power supply **Units sold:** 2,000 since 1984 **Cost:** $219

☐ Power Expansion 2
Hardware required: IBM PC XT **Description:** Internal power supply **Units sold:** 6,000 since 1984 **Cost:** $269

SIGMA DESIGNS, INC.
SEE AD ON COVER 4

☐ Expansion Chassis
Hardware required: IBM PC, XT, Portable and compatibles **Description:** Eight slots **Units sold:** 15,000 since 1982 **Cost:** $895

SYSGEN, INC. (CA)

☐ Sysgen Disk I/O
Hardware required: IBM PC and compatibles **Description:** Six slot expansion box; 21M disk drive and 85 watt power supply; accommodates second drive **Introduced:** 1985 **Cost:** $1,995

TECMAR, INC.

☐ Expansion Chassis
Reviewed Feb 1984 p. 75.
Hardware required: IBM PC **Description:** Seven usable expansion slots with power supply **Introduced:** 1981 **Cost:** $945

FANS/COOLING DEVICES

AIP

☐ PCool
Hardware required: IBM PC, XT **Description:** Clipmounts on front of XT; controlled by PC's power switch **Units sold:** 1,000 since 1983 **Cost:** $100

PC COOLING SYSTEMS

☐ Silencer
Hardware required: IBM PC, XT **Description:** Replaces IBM's fan and operates with less noise; mounts on rear chassis using existing screw holes **Units sold:** 1,000 since 1985 **Cost:** $80

☐ Turbo-Cool
Hardware required: IBM PC, XT, AT **Description:** Increases cooling capacity for operating temperature reductions of up to 26 degrees; installs, without entering the computer, using existing screw holes on rear chassis **Units sold:** 5,000 since 1985 **Cost:** $60-$80

GRAPHIC TABLETS

ALPS ELECTRIC (USA), INC.
(subsidiary of Alps Electric Co., Ltd.)
SEE AD ON PAGE 169

☐ UDC01
Hardware required: IBM PC and compatibles **Description:** Finger touch or stylus input; menu sheet function selection

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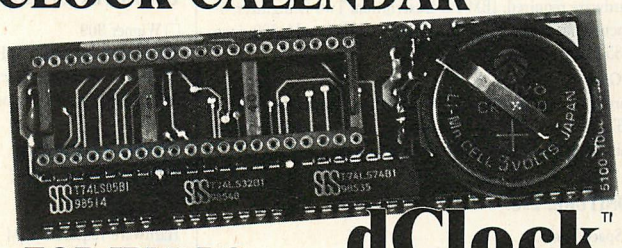
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CIRCLE NO. 303 ON READERS SERVICE CARD

GENIGRAPHICS CORP.

☐ Digitizer Tablet
Hardware required: IBM PC, XT **Description:** Creates charts, graphs and other visuals for use in business communications

GTCO CORP.

☐ Graphics Analysis Package 1
Hardware required: IBM PC, XT, AT and compatibles **Description:** Used as digitizer planimeter **Introduced:** 1982 **Cost:** $450

PENCEPT, INC.

☐ PENPAD 320
Hardware required: IBM PC; Compaq **Description:** Information, including numeric and special characters, is printed on digitizing tablet and accepted; allows data entry without keyboard **Cost:** $1,495

POLYTEL COMPUTER PRODUCTS CORP.

☐ Keyport 300
Hardware required: IBM PC, XT, AT, jr, PC 3270 and compatibles **Software required:** PC DOS 2.0, 2.1, 3.0, 3.1 **Description:** Touch input pad with 300 programmable keys on an 8.5" X 11" surface; labeled or graphically illustrated overlays allow user to access software functions without knowledge of commands **Units sold:** 3,000 since 1984 **Cost:** $195

PREH ELECTRONICS INDUSTRIES, INC.

☐ Bitmap S12CD Series
Hardware required: RS-232C **Description:** Serial and parallel outputs; supports resolution of up to 4,096 X 4,096 (12 bits) and active area of 125 X 95mm **Cost:** $500

SCIENCE ACCESSORIES CORP.

☐ GP-7
Hardware required: IBM PC **Description:** Two-D digitizer; 5-function menu and 18" X 24" active area **Units sold:** 3,500 since 1981 **Cost:** $995

☐ GP-7 II
Hardware required: IBM PC **Description:** Two-D digitizer; 5-function menu and 20" X 26" active area **Units sold:** 200 since 1985 **Cost:** $1,315

☐ GP-8
Hardware required: IBM PC **Description:** Two-D digitizer; 5' X 6' active area, RS-232C interface, stylus and 5-function menu **Units sold:** 2,500 since 1983 **Cost:** $2,300-$3,175

SONITURE, INC.

☐ Space Pen
Hardware required: Apple II, II+, IIe, IIc; IBM PC, XT, AT, jr; Atari; Commodore; MSX **Description:** Sonic pointer transmits X, Y and Z information to receiver frame attached to monitor and connects to joystick port; monitor frame measures 12" X 2" X 1" with a 48" connecting cord; pointer is 5" in length, 1" diameter with 72" connecting cord **Units sold:** 1,100 since 1985 **Cost:** $150

TECMAR, INC.

☐ Video Van Gogh
Hardware required: IBM PC, AT and compatibles; TI Professional; AT&T 6300 and compatibles **Description:** Digitizes black and white picture in six seconds. Software available to digitize video pictures and display picture to/from disk; 255 X 255 resolution with 256 grey levels **Introduced:** 1982 **Cost:** $345

T.G. PRODUCTS, INC.

☐ Super Sketch II
Hardware required: IBM PC, jr; Apple II **Description:** Stylus control arm and four control buttons to reproduce diagrams, charts and drawings on video screen or printer **Units sold:** 30,000 since 1984 **Cost:** $50

VERSA COMPUTING, INC.

☐ VERSAWRITER
Hardware required: IBM PC, XT; Apple II, IIe, IIc **Description:** Digitizer drawing board/software system for entry of high resolution graphics; accepts 8.5" X 12" original drawings; additional expansion slot not required **Units sold:** 9,000 since 1979 **Cost:** $149-$299

JOYSTICKS

ATLAZ INTERNATIONAL, LTD.

☐ Model 107JS
Hardware required: IBM PC **Description:** All metal, enclosed, commercial/industrial type; ultra linear potentiometers, dual X-Y fine adjustments, two postive feel push buttons; self-centering **Cost:** $26

AVANT INDUSTRIES, INC.

☐ J90; J100
Hardware required: IBM PC, XT, AT and compatibles; Apple **Description:** Spring-centering or free-floating; 360-degree cursor control **Cost:** $14-$16

CH PRODUCTS

☐ MACH II
Hardware required: Apple II, II+, IIe, IIc; IBM PC, jr **Description:** Self-centering feature can be externally disengaged **Cost:** $45

☐ MACH III
Hardware required: Apple II, II+, IIe, IIc; IBM PC, jr and compatibles **Description:** Push-button switch in stick handle; stainless steel ball as main pivot **Cost:** $55

☐ Microstick
Hardware required: IBM PC and compatibles; Apple; RS-232C **Description:** Eight modes of movement; PC mouse emulation; Summagraphics Bit Pad One mode; three types of output; hi-res up to 1 in 4,096; communicates from 300 to 19.2K baud **Introduced:** 1985 **Cost:** $280

CONTRIVER ENTERPRISE CO., LTD.

☐ Winner 909
Hardware required: IBM PC, jr and compatibles; Apple II, IIe, IIc, II+ **Description:** Selective spring centering or free floating; 360-degree cursor movement **Cost:** $30

GRAVIS COMPUTER PERIPHERALS, INC.

☐ MKVI
Hardware required: IBM PC and compatibles; Apple II and compatibles **Description:** Analog joystick controller with eight-position variable spring tension centering, three microswitch push-buttons and switch selector system **Units sold:** 10,000 since 1985 **Cost:** $50

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Attachable Joystick
Hardware required: IBM PC jr **Cost:** $40

KRAFT SYSTEMS CO.

☐ Premium Joystick
Hardware required: IBM PC, XT, AT and compatibles; Apple II, IIe, IIc, Macintosh **Description:** Spring centering and free-floating stick modes selectable by switching external toggle switches on bottom of case **Introduced:** 1981 **Cost:** $10-$80

LASER DIGITAL, INC.

☐ Joystick
Hardware required: IBM PC, XT **Description:** 15-pin "D" connector connects to game adapter

TECH DESIGNS, INC.

☐ Magstik
Hardware required: Apple IIc, II+, IIe and compatibles; IBM PC, XT, AT and compatibles **Description:** Self-centering without springs; left- or right-handed use **Introduced:** 1983 **Cost:** $50

T.G. PRODUCTS, INC.

☐ TG Joysticks
Hardware required: Apple II, IIe, IIc; IBM PC **Description:** Linear action with trim adjustments for each axis; self-centering feature may be disengaged when desired **Units sold:** 60,000 since 1982

WGE INTERNATIONAL, LTD.

☐ Universal Joystick
Hardware required: IBM PC; Apple II, II+, IIe, IIc **Description:** Includes auto-centering and free-floating; two pairs of fire buttons, one quick fire button **Cost:** $40

WICO CORP.

☐ Command Joystick
Hardware required: Apple II, II+, IIe, IIc; IBM PC **Description:** 360 degree movement; free-floating or re-centering capability **Cost:** $45

KEYBOARD ACCESSORIES

BROWN & CO., INC.

☐ PC-Pedal
Hardware required: IBM PC **Description:** Duplicates Shift, Control, Alternate, or Backspace/Delete keys (or any key with enhanced version) with foot pedal **Cost:** $60-$80

CREATIVE COMPUTER PRODUCTS, INC.

☐ Kleerkey Templates
Hardware required: IBM PC, XT, AT and compatibles; HP 150; KeyTronics 5151 **Description:** Blank reversible function key templates **Introduced:** 1984 **Cost:** $5 (pkg. of 3)

☐ Kleertex Templates (IBM)
Hardware required: IBM PC, XT and compatibles **Description:** Key-by-key commands and examples printed on plastic templates; for Lotus 1-2-3, MultiMate, WordStar, dBase II and III, Multiplan, WordPerfect 4.1, DOS 2.10, Symphony, PFS:Series, Microsoft Word, and Framework; do-it-yourself blanks **Units sold:** 300,000 since 1982 **Cost:** $13-$33

GENEST TECHNOLOGIES, INC.

☐ Keypatch-10
Hardware required: IBM PC, XT, AT and compatibles **Description:** Places IBM keyboard into NUM-LOCK; provides 10-key resident numeric pad and separate 10-key cursor control and screen function pad **Units sold:** 1,000,000 since 1985 **Cost:** $85-$93

HARDCOVER

☐ Keyboard Cover
Hardware required: IBM PC, XT and compatibles; Apple II, II+, IIe, IIc, Macintosh **Description:** Locking and non-locking models available **Cost:** $10-$20 (per 12 unit case)

HOOLEON CORP.

☐ Keytops
Hardware required: IBM PC and compatibles **Description:** Set of 12 enlarged labeled keys fit over Return, Tab, Backspace, 0, Shift and Control keys; identify and increase key size **Introduced:** 1983 **Cost:** $22

INMAC

☐ PC Templates
Hardware required: IBM PC **Description:** Frequently used commands, prompts, symbols, formats and functions for Lotus 1-2-3, VisiCalc; WordStar; BASIC 1.1, BASIC 2.0, MultiPlan, MultiMate, Symphony, dBASE III, Framework and Easywriter **Cost:** $15

KEY-TECH

☐ Templates
Hardware required: IBM PC, AT, XT **Introduced:** 1984 **Cost:** $6

LAMBERT LOGICAL DESIGN

☐ Lock-Lite
Hardware required: IBM PC, XT **Description:** Red and green lights show state of CAPS LOCK and NUM LOCK; audible alarm when LOCK key is hit **Introduced:** 1985 **Cost:** $40

MICROCOMPUTER ACCESSORIES, INC.

☐ Storage Drawers
Hardware required: IBM PC and compatibles **Description:** Keyboard storage drawers; table-top, mount-under and locking models **Introduced:** 1983 **Cost:** $89-$129

SYSTEMS MANAGEMENT ASSOCIATES, INC.

☐ PC-DocuMates
Hardware required: IBM PC, XT, AT and compatibles; Apple **Description:** Keyboard templates for popular programs; do-it-yourself templates **Units sold:** 325,000 since 1982 **Cost:** $13-$15

TDA, INC.

☐ Templates
Hardware required: IBM PC, AT **Description:** Access to commands, key assignments and menu-structures **Introduced:** 1983 **Cost:** $20

D. M. TUCKER, INC.

☐ Key Kue
Hardware required: IBM PC, XT **Description:** Cue card fits around function keys; notes function of each key **Cost:** $25 (5 pkgs. of 5 ea.)

KEYBOARDS

ALPS ELECTRIC (USA), INC.

(subsidiary of Alps Electric Co., Ltd.)
SEE AD ON PAGE 169

☐ KFCME
Hardware required: IBM PC AT **Description:** 84 Keys: 18 numeric, 56 main pad, 10 function

ALYWA COMPUTER CORP.

☐ YBK-370
Hardware required: IBM PC **Description:** Serial or parallel data interface; lit CAP Lock key; body tilt adjustment

AMKEY, INC.

☐ DIN 106
Hardware required: IBM PC and compatibles **Description:** Capacitance keyboard features 21 additional function keys; LEDs on NUM lock, CAP lock and Return key **Cost:** $160-$165

☐ DIN 124
Hardware required: IBM PC and compatibles **Description:** 122-key DEC look-a-like capacitance keyboard; numeric keypad and cursor pad separated from alpha keys **Cost:** $198

☐ MPFK
Hardware required: IBM PC and compatibles **Description:** Flat capacitance keyboard for POS and industrial applications **Cost:** $135

ATLANTIC COMPUTER PRODUCTS, INC.

☐ Staff-K9
Hardware required: IBM PC XT, AT **Description:** Silent tactile feedback keyswitch; oversized Return and Shift keys; 28mm high; function display overlay; separate numeric keypad and cursor control keypad

☐ 150M; 151 Keyboard
Hardware required: IBM PC, XT, AT and compatibles **Description:** 84-key; oversized Return, Shift and Control keys, CAPS lock and NUM lock, 10-key pad area

☐ 84 Keys Keyboard
Hardware required: IBM PC XT **Description:** Enter key in 10-key pad area

ATLAZ INTERNATIONAL, LTD.

☐ Model 2501KB
Hardware required: IBM PC **Description:** 83 keys. **Cost:** $99

☐ Model 2501KBD
Hardware required: IBM PC **Description:** 94 keys. **Cost:** $120

AVANT INDUSTRIES, INC.

☐ PC/XT/AT Keyboard
Hardware required: IBM PC, XT, AT and compatibles **Description:** LED indicator **Cost:** $52-$80

CALMEX, INC.

☐ KF-2000
Hardware required: Apple II; IBM PC

DIGITAL COMMUNICATIONS ASSOCIATES, INC. (DCA)

☐ IRMAkey/3270
Hardware required: IBM PC, XT, AT **Description:** Standard 3270 keyboard with IBM PC keys and four additional keys perform IRMA functions (3270 emulation) and DCA utilities (file transfer) with two keystrokes; user redefines keys; all keys are typematic; cable provided **Introduced:** 1984 **Cost:** $329

THE DIGITRAN CO.

☐ KD167
Hardware required: IBM PC, XT, AT **Description:** 84-key; LEDs in enclosure; up/down codes; N-key rollover; dual board design

ENGEBRETSEN ENGINEERING

☐ Key-2
Hardware required: IBM PC XT **Cost:** $289

ENIGMA RESEARCH

☐ Model 9000
Hardware required: PC, XT, AT, jr and compatibles **Description:** 133 keys: 40 function keys; dedicated cursor numeric keypads; positive tactile feedback **Units sold:** 1,000 since 1985 **Cost:** $350

FORTRON CORP.

☐ FC-427
Hardware required: IBM PC, XT and compatibles **Description:** 83 keys, light indicator on numeric and lock keys **Units sold:** 4,000 since 1984 **Cost:** $99

☐ FC-527
Hardware required: IBM PC AT **Description:** Auto repeat, electronic shiftlock with LED indicator, N-Key rollover, integration encoding, low-profile key switches and positive tactile feedback; protocol is serial format TTL **Units sold:** 1,500 since 1985 **Cost:** $129

GALLANT INTERNATIONAL CORP.

☐ GIC-KB
Hardware required: IBM PC XT **Description:** Status LEDs; function keys **Cost:** $73

HI-TEK CORP.

☐ PC-83/84
Hardware required: IBM PC

☐ Series 725
Hardware required: IBM PC **Description:** Features passive keyswitch design

HIGHWIN INTERNATIONAL, INC.

☐ KB-5060AT
Hardware required: IBM PC, AT and compatibles **Description:** Auto repeat and N-Key rollover

☐ KB-5150
Hardware required: IBM PC, XT and compatibles **Description:** Auto repeat and N-Key rollover

☐ KB-5151
Hardware required: IBM PC, XT and compatibles **Description:** Auto repeat and N-Key rollover

☐ XT-1
Hardware required: Apple II, IIe; IBM PC, XT and compatibles **Description:** Infrared remote control; auto repeat and N-Key rollover; auto power shut-off

ICS

(division of Action Instruments)

☐ 6531-KB
Hardware required: IBM PC, XT **Description:** 20-key operator keypad, allows limited access via keypad; 6-foot coiled cord **Cost:** $795

INMAC

☐ Bar-Code-Scanning Keyboard
Hardware required: IBM PC, XT **Description:** Bidirectional scanning of Code 3 of 9 and Industrial 2 of 5; separate numeric and function keys **Cost:** $795

☐ Speech Recognition Keyboard
Hardware required: IBM PC, XT **Description:** Recognizes up to 160 words or sounds; footswitch for keyboard or verbal entry **Cost:** $995

KEY SOLUTIONS

☐ Keyboard
Hardware required: IBM PC **Description:** Conductive elastomer and mechanical switch styles; optional output for standard ASCII; position encoding and optional baud rates up to 9,600 **Cost:** $125

KEY TRONIC CORP.

☐ KB3270/PC
Hardware required: IBM PC, XT, AT **Description:** 122-key professional layout, micro to mainframe network capability with appropriate software **Introduced:** 1985 **Cost:** $326

☐ KB5149/jr
Hardware required: IBM PC jr **Description:** Numeric keypad features cursor control, math functions, tab and backspace **Introduced:** 1985 **Cost:** $70

☐ KB5150
Hardware required: IBM PC, XT **Description:** LED indicators; available in Dvorak and foreign layouts **Introduced:** 1983 **Cost:** $159

☐ KB5150/jr
Hardware required: IBM PC jr **Description:** Typewriter style keys, LED indicators and solid state capacitive switches; available in Dvorak layout **Introduced:** 1984 **Cost:** $219

☐ KB5151
Hardware required: IBM PC, XT, AT, jr; AT&T 6300 **Description:** Top row function keys, separate cursor pad and LED indicators; available in Dvorak layout **Introduced:** 1983 **Cost:** $255

☐ KB5151/jr
Hardware required: IBM PC jr **Description:** Typewriter style keys, separate cursor pad, LED indicators and solid state capacitive switches; available in Dvorak layout **Introduced:** 1984 **Cost:** $255

☐ KB5152/B
Hardware required: IBM PC, XT **Description:** Bar code input; professional series keyboard; autodiscriminates and reads standard bar codes; scans forward or reverse; industrial grade scanning wand designed for rugged commercial use **Introduced:** 1985 **Cost:** $795

☐ KB5152/V
Hardware required: IBM PC, XT **Description:** Speech recognition keyboard; 100-160 words/phrases per vocabulary, nine vocabulary subdivisions, and discrete words/phrases up to 1.25 sec. duration; recognition algorithm uses spectral power encoding **Introduced:** 1985 **Cost:** $995

☐ KB5153
Hardware required: IBM PC, XT, AT **Description:** AT-style keyboard with directly-mounted touch pad; operates as cursor, mouse, graphic and function keys **Introduced:** 1985 **Cost:** $400

LASER DIGITAL, INC.

☐ Keyboard Series
Hardware required: IBM PC, XT **Description:** Keyboards include 83 to 98 keys.

MAXI-SWITCH CO.
(subsidiary of Eeco, Inc.)

☐ Replacement Keyboard
Hardware required: IBM PC, XT, AT **Description:** Switch selectable; operates with either AT or XT; Conductive elastomer technology **Introduced:** 1985 **Cost:** $125

MAXTRON

☐ AT-19
Hardware required: IBM PC AT **Description:** 84-key, switchable AT/XT; oversize Return, Shift and Control keys; indicator light on Cap Lock, Num Lock and Power keys **Cost:** $69

☐ AT-19A
Hardware required: IBM PC AT **Description:** 100-key; oversized Return and Shift keys; separate numeric and cursor pad; top row function keys **Cost:** $89

☐ XT-19
Hardware required: IBM PC XT **Description:** 84 key; over-size Return, Shift and Control keys; indicator light on Cap Lock, Num Lock and Power keys **Cost:** $57

MICRO SWITCH
(division of Honeywell, Inc.)

☐ Silent-Tactile Keyboard
Hardware required: IBM PC AT **Description:** 6-foot coiled cord **Introduced:** 1985 **Cost:** $168

☐ TCE434
Hardware required: IBM PC, AT **Description:** Sealed, flat-panel, 84-key touch panel keyboard **Introduced:** 1986

OAK SWITCH SYSTEMS, INC.
Keyboard Products Division

☐ Keyboard
Hardware required: IBM PC, AT and compatibles **Description:** 84-key; accelerated auto repeat; front sealed; enclosure and cable included **Cost:** $150

PKI, INC.
(division of Pfenyan Kappa International, Inc.)

☐ NKB-108AT
Hardware required: IBM PC XT, AT and compatibles **Description:** CMOS custom design, auto-switching, three status LEDs (Caps Lock, Scroll Lock, Num Lock) and oversized return and key **Units sold:** 200 since 1986 **Cost:** $99

POLYTEL COMPUTER PRODUCTS CORP.

☐ Keyport 60
Hardware required: IBM PC, XT, AT and compatibles **Description:** 60 programmable keys **Units sold:** 500 since 1985 **Cost:** $119

PRECISION INTERNATIONAL, INC.

☐ Key-1050
Hardware required: IBM PC

☐ Key-1051
Hardware required: IBM PC **Description:** Cursor control keypad

PROENT CO.

☐ ProENT Keyboard
Hardware required: IBM PC, XT **Description:** For spreadsheets and one-hand touch typing; separate cursor keys; sculptured key tops and light indicators on CAP LOCK and NUM LOCK keys **Units sold:** 125 since 1984 **Cost:** $198

QUBIE

☐ FF5161
Hardware required: IBM PC, AT, XT **Description:** Relocates keys to customary typewriter position; light indicators for shift-lock and num-lock keys **Units sold:** 10,000 since 1984 **Cost:** $159

REACTIVE SYSTEMS, INC.

☐ Q System
Hardware required: IBM PC, XT and compatibles **Description:** Computer-based group response system; up to 128 participants respond to questions via keypad **Introduced:** 1986 **Cost:** $1,200-$1,550

SEASONED SYSTEMS, INC.

☐ SureStroke
Hardware required: IBM PC, XT; Compaq **Description:** DVORAK keyboard; software translates keystrokes to DVORAK and teaches DVORAK keyboard by touch **Units sold:** 1,500 since 1984 **Cost:** $99

TOUCHSTONE TECHNOLOGY, INC.

☐ Touchstone 1
Hardware required: IBM PC, XT **Description:** 29-key; dedicated cursor, space, backspace, home and enter control keys; math keys include percent and bracket keys for compound math formulas **Introduced:** 1984 **Cost:** $170

☐ Touchstone 2
Hardware required: IBM PC, XT, AT; Compaq DeskPro **Description:** 35-key keypad; dedicated cursor and page controls; ten function keys, full set of math keys and traditional adding machine layout **Introduced:** 1984 **Cost:** $200

T. S. MICROTECH, INC.

☐ Dreamer
Hardware required: IBM PC, XT, AT **Description:** 20-key numeric keypad; 30 function keys; separate cursor control **Cost:** $259

WICO CORP.

☐ Smart Board
Hardware required: IBM PC, XT; Apple II, II+, IIc **Description:** MouseTrac Combo (trackball and mouse) with BASIC key, 2K RAM, 128-character type ahead buffer, key swap; expansion port daisy-chains second keyboard or connects other peripherals **Cost:** $400

LIGHT PENS

DESIGN TECHNOLOGY

☐ DT 170
Hardware required: IBM PC and compatibles **Description:** Software available **Units sold:** 50,000 since 1981 **Cost:** $135

DUNCAN-ATWELL COMPUTERIZED TECHNOLOGIES, INC.

☐ LENIPEN
Hardware required: IBM PC, XT, AT, 3270 **Software required:** LENIPEN System Software Series **Description:** Reads light beams from CRT and reports pixel locations back to PC color graphics card **Introduced:** 1982 **Cost:** $220

☐ LENIPEN: Push-Tip
Hardware required: IBM PC, XT, AT, 3270 **Software required:** LENIPEN System Software Series **Description:** Activated by depressing retractable tip of light pen against CRT **Introduced:** 1982 **Cost:** $220

FTG DATA SYSTEMS

☐ FT-156
Hardware required: IBM PC, XT, AT and compatibles **Description:** Includes cable; optional software available **Units sold:** 11,300 since 1982 **Cost:** $195

HEI, INC.

☐ Fast-Point
Hardware required: IBM PC and compatibles **Description:** 10-foot coiled cable, software documentation and demonstration diskette **Introduced:** 1985 **Cost:** $145

☐ Feather
Hardware required: IBM PC and compatibles **Description:** Cordless light pen **Introduced:** 1986 **Cost:** $195

THE LITE-PEN CO.

☐ CPT
Hardware required: IBM PC and compatibles **Description:** Color operation; pushtip activated; sidebutton option

☐ Lite-Pen
Hardware required: IBM PC, XT, jr, AT, 3270 and compatibles **Description:** Automatic sensitivity adjustment compensates for varying light conditions in room or on screen **Units sold:** 10,000 since 1984 **Cost:** $200

☐ MPT
Hardware required: IBM PC and compatibles **Description:** P-134 and P-39 IBM monochrome operation; pushtip activated; sidebutton option

☐ VPT
Hardware required: IBM PC and compatibles **Description:** Mono/color operation; pushtip activated; sidebutton option

TECH SKETCH, INC.

☐ Tech Sketch
Hardware required: IBM PC **Description:** Coil-free cord; software included **Cost:** $70

WARP SPEED COMPUTER PRODUCTS, INC.

☐ WS250
Hardware required: IBM PC, XT, AT and compatibles **Description:** Push-tip switch **Units sold:** 6,000 since 1985 **Cost:** $200

MOUSE DEVICES

ALPS ELECTRIC (USA), INC.
(subsidiary of Alps Electric Co., Ltd.)
SEE AD ON PAGE 169

☐ UDA Series
Hardware required: IBM PC and compatibles **Description:** Optical and mechanical encoders; pointing device for CAD/CAM and PC systems

COMPUTER DEVICES INTERNATIONAL

☐ OptoMouse
Hardware required: RS-232C **Description:** Microprocessor controlled optical imaging system replaces traditional mechanical components; emulates Tektronix Plot 10 and Summagraphics Bit Pad protocols **Units sold:** 300 since 1982 **Cost:** $300

CONTRIVER ENTERPRISE CO., LTD.

☐ M-II Mouse
Hardware required: IBM PC and compatibles **Description:** 3-button mouse **Cost:** $79

☐ Mousebox
Hardware required: IBM PC and compatibles **Description:** Used with joystick to emulate mouse functions **Introduced:** 1986 **Cost:** $45

☐ Mousestick
Hardware required: IBM PC and compatibles **Description:** 3-button mouse with switch-selectable joystick **Introduced:** 1986 **Cost:** $79

HIGHWIN INTERNATIONAL, INC.

☐ Mouse-50
Hardware required: IBM PC, XT and compatible; Apple II, IIe, Macintosh

IMSI

☐ IMSI Mouse
Hardware required: IBM PC and compatibles **Description:** 3-button opto-mechanical mouse; 200 dot-per-inch resolution **Cost:** $99

☐ IMSI Optimouse
Hardware required: IBM PC, XT, AT and compatibles **Description:** 3-button mouse; includes Pop-Up software and mouse driver **Cost:** $175

INMAC

☐ Super Mouse
Hardware required: IBM PC, XT, AT and compatibles **Description:** Programmable baud rate up to 9,600 bps **Cost:** $99

KOALA TECHNOLOGIES CORP.
(division of PTI Industries)

☐ KAT
Hardware required: IBM PC, XT, AT and compatibles; Apple Macintosh **Description:** 1000 X 1000 resolution; optional use as soft-key function pad; hand-held or lap-top operation **Introduced:** 1985 **Cost:** $236

LOGITECH, INC.
SEE AD ON PAGE 281

☐ LogiMouse C7
Hardware required: IBM PC, XT, AT and compatibles **Description:** High resolution, opto-mechanical mouse; requires no pad or external power supply; bundled with Universal Mouse Driver, TAG, and Text-and-Graphics Editor **Introduced:** 1985 **Cost:** $99

☐ Mouse 6300
Hardware required: AT&T 6300 **Description:** Keyboard interface mouse with software; Microsoft compatible drive; mouse menu program; Draw/Writer and Text-and-Graphics Editor **Introduced:** 1984 **Cost:** $150

MANDAT-INFO TECH

☐ MICRO-MEASURE
Hardware required: IBM PC XT and compatibles **Software required:** BID-RITE **Description:** Detects movements of 0.02" in X or Y **Cost:** $2,749

MAYNARD ELECTRONICS

☐ The Mouse
Hardware required: IBM PC, XT, AT and compatibles **Description:** Three buttons for custom commands; CustomKey software; Microsoft compatible **Introduced:** 1985 **Cost:** $185

MICROSOFT CORP.
SEE AD ON PAGES 284/285/286/287/288

☐ Microsoft Mouse
Reviewed Apr 1984 p. 150.
Hardware required: IBM PC, XT, jr **Units sold:** 50,000 since 1983 **Cost:** $195

MOUSE SYSTEMS CORP.

☐ Field Mouse
Hardware required: RS-232C **Description:** Three-button optical mouse with power supply **Introduced:** 1983 **Cost:** $175

☐ PC Mouse
Reviewed Apr 1984 p. 150.
Hardware required: IBM PC and compatibles **Description:** Three-button optical mouse with Designer Pop-up and PC Paint Plus software **Introduced:** 1982 **Cost:** $199

PRACTICAL PERIPHERALS, INC.

☐ Practical Mouse
Hardware required: IBM PC, XT, AT and compatibles **Description:** Optical two-button mouse with TTL and RS-232C output; includes software **Introduced:** 1985 **Cost:** $179

SUMMAGRAPHICS CORP.

☐ SummaMouse
Hardware required: IBM PC, jr and compatibles **Description:** Optical, microprocessor control technology; supports transmission rates of 300-9,600 bps **Introduced:** 1983 **Cost:** $119

THE TORRINGTON CO.
(division of Ingersoll-Rand Co.)

☐ Manager Mouse 1001C; 1001C-MC25
Hardware required: IBM PC, XT and compatibles **Description:** Requires no disassembly for maintenance, special tablet for operation or separate power supply **Introduced:** 1985 **Cost:** $198 (includes software)

☐ Manager Mouse 1001C-AT
Hardware required: IBM PC, AT; Compaq 286; KayPro 286 **Description:** 8-foot cable for side mounted or floor mounted models **Introduced:** 1985 **Cost:** $228

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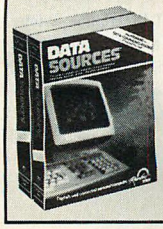
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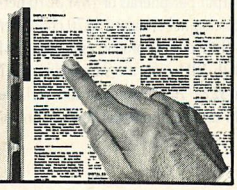
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CIRCLE NO. 323 ON READERS SERVICE CARD

TOUCH TECHNOLOGY, INC.

☐ Touch Mouse
Hardware required: IBM PC **Description:** Fingertip movement provides screen control; four modes of cursor control; graphics program, telephone Rolodex, and drivers for Lotus 1-2-3, WordStar and VisiCalc **Units sold:** 100 since 1985 **Cost:** $349

VERSATRON CORP.

☐ Footmouse
Hardware required: IBM PC, XT, Portable; Ivy; ITT XTRA; Compaq DeskPro **Description:** Foot-controlled cursor **Units sold:** 5,000 since 1985 **Cost:** $50

PADDLES

TECH DESIGNS, INC.

☐ Adam & Eve Paddles
Hardware required: Apple II, II+, IIe and compatibles; IBM PC, XT, AT and compatibles **Description:** Long-life switches, potentiometers and trimming circuit soldered to miniature PCB **Units sold:** 25,000 since 1981 **Cost:** $35

PRINTER ACCESSORIES

ANEX TECHNOLOGY, INC.

☐ Multi-Spool
Hardware required: IBM PC, XT, AT **Description:** Up to eight users share one parallel printer **Introduced:** 1984 **Cost:** $450

APPARAT, INC.

☐ Spool/64
Hardware required: IBM PC **Description:** 64K parallel print buffer **Units sold:** 900 since 1982 **Cost:** $249

APPLIED CREATIVE TECHNOLOGY, INC.

☐ BufferBox
Hardware required: RS-232C; Centronics parallel **Description:** 64K buffer; built-in copy and pause features; serial/parallel adapter **Units sold:** 400 since 1985 **Cost:** $199-$269

☐ BufferPlus
Hardware required: RS-232C; Centronics Parallel **Description:** 64K buffer; built-in copy and pause features; serial/parallel adapter; character conversion and printer font remote control **Units sold:** 250 since 1985 **Cost:** $299-$369

☐ ETI2
Hardware required: RS-232C; Centronics parallel **Description:** Models 50, 60, 65, 75, 85 and 175 IBM Electronic Typewriters function as letter-quality printers **Units sold:** 5,000 since 1980 **Cost:** $299-$379

☐ Optimizer
Hardware required: RS-232C; Centronics parallel **Description:** 64K-1M data buffer with character conversion, space compression, multiple-copy, manual or automatic pauses, stored character strings, protocol conversion and up to 3 outputs; data transmission speeds up to 19.2K baud **Units sold:** 8,000 since 1982 **Cost:** $369

☐ Systemizer
Hardware required: RS-232C; Centronics parallel **Description:** Printer sharing system; when daisychained with other Systemizers, connects up to 15 computers to 15 printers **Units sold:** 6,000 since 1985 **Cost:** $439

CALIFORNIA MICRO COMPUTER

☐ Typewriter Interface
Hardware required: IBM PC **Description:** Interface module; IBM electronic typewriter functions as printer, typewriter or input device; attaches to async connector; cable, 2K buffer, electronic disconnect, code key mode, line fee inhibit and online indicator **Cost:** $249

CAROLINA ENGINEERING LABORATORIES

☐ StyleWriter
Hardware required: RS-232C **Description:** 8K buffer expandable to 64K or 128K; upgrades dot-matrix to letter-quality printer **Cost:** $169 (8K)

COMPUTER FRIENDS

☐ Proteus
Hardware required: Microcomputers with Centronics parallel interface **Description:** Two-port data switch with 64K or 256K buffer **Introduced:** 1986 **Cost:** $199-$299

COMSPEC COMMUNICATIONS, INC.

☐ MCS 8000 Series
Hardware required: IBM PC and compatibles; Apple **Description:** Eight users share one printer; 64K or 256K print buffer **Cost:** $742-$866

CONSOLINK CORP.

☐ MicroSpooler
Hardware required: IBM PC; Apple II, II+, IIe, III, Lisa, Macintosh and compatibles **Description:** Standalone 64K print buffer with power supply; compatible with RS-232C or Centronics parallel interfaces; digital memory status; pause on formfeed function and multiple-copy capabilities **Introduced:** 1983 **Cost:** $324

☐ MicroSpooler Advanced Business System
Hardware required: IBM PC **Description:** Standalone 128K-256K print buffer; compatible with Centronics parallel or RS-232C interfaces; interface conversion capabilities; user-programmable **Introduced:** 1984 **Cost:** $489-$595

☐ MicroSpooler 16
Hardware required: IBM PC; Apple II, II+, IIe, III, Lisa, Macintosh and compatibles **Description:** Standalone 16K print buffer with power supply; compatible with RS-232C or Centronics parallel interfaces; digital memory status; pause on formfeed function and multiple-copy capabilities **Introduced:** 1983 **Cost:** $150

☐ SooperSpooler
Hardware required: IBM PC **Description:** Standalone print buffer internal power supply; compatible with Centronics parallel or RS-232C interfaces; interface conversion capabilities; pagination; page numbering; header insertion; space compression; single sheet mode; self-test function **Introduced:** 1982 **Cost:** $318-$486

CREATIVE COMPUTER PRODUCTS, INC.

☐ Print-A-Form Guides
Hardware required: IBM; Apple **Description:** Grids of column/row numbers, on 11" X 15" sheets of clear acetate, corresponding to column/row numbers on computer screen; three separate grids for documents of 10, 12, and 16 characters per inch **Introduced:** 1981 **Cost:** $20 (pkg. of 3)

DATA-DOC ELECTRONICS, INC.

☐ DDE Data Buffer
Hardware required: IBM PC; Apple **Description:** Standalone printer buffer connects between computer and printer utilizing standard Centronics parallel interface; normal print mode, stop print mode, pause on formfeed mode and self-test mode

DIGITAL COMMUNICATIONS ASSOCIATES, INC. (DCA)

☐ IRMAprint
Hardware required: IBM PC **Description:** Asynchronous ASCII output devices operate as output peripherals or IBM 3270 networks; connects to remote or channel-attached 3270 controller via coaxial cable; supports IBM coax protocol; emulates IBM 3287 printer; compatible with IBM software supporting 3287 printer models 1 or 2 with 3274/76 attachment and variable character buffer; available in serial and parallel versions **Introduced:** 1984 **Cost:** $1,295

DIGITAL DEVICES CORP.

☐ U-Buff
Hardware required: IBM PC and compatibles **Description:** 16K buffer expandable to 64K; parallel-to-parallel and serial-to-parallel interface **Introduced:** 1984 **Cost:** $120-$150

DIGITAL PRODUCTS, INC.

☐ MultiSpool
Hardware required: IBM PC **Description:** Routing and 250KB buffering; serial and parallel ports; mixed concurrent baud rates **Units sold:** 1,000 since 1982 **Cost:** $1,395

INNOVATIVE PLASTIC DESIGNS

☐ STAX 80
Hardware required: IBM; Apple; Epson; Okidata **Description:** Desktop printer stand for rear and middle feed 80 column printers

INTEGRATED MARKETING CO. (IMC)

☐ Data Manager II
Hardware required: Microcomputers with RS-232C **Description:** Multiple device spooler connects four microcomputers to two printers; 64K buffer, upgradable to 1M **Introduced:** 1986 **Cost:** $795

INTERACTIVE STRUCTURES, INC.

☐ ShuffleBuffer
Hardware required: IBM PC; Apple II, II+, IIe, III, Lisa, Macintosh and compatibles **Description:** Intelligent printer buffer compatible with serial or parallel equipment; up to 128K non-volatile buffer memory with extra data compression; prints multiple copies, incorporates word processor, spreadsheet and graphics printing **Units sold:** 50,000 since 1984 **Cost:** $349-$499

JOHNATHON FREEMAN DESIGNS, INC.

☐ 1064 Universal Printer Buffer
Hardware required: Microcomputer Multibus **Description:** Includes 64K-256K RAM; 2 serial ports, 2 parallel ports **Units sold:** 300 since 1985 **Cost:** $269

OMNITRONIX, INC.

☐ RAMJET
Hardware required: RS-232C; Parallel **Description:** 256K printer buffer **Introduced:** 1986 **Cost:** $269

PRINTEK, INC.

☐ ASF-1/ASF-2
Hardware required: IBM PC **Description:** Automatic sheet feeders (single and dual bin) for use with Printek 930/935; driven by command from host; paper-out detection via printer; handles forms and cut sheets from 8"-14" long, 4"-11" wide **Introduced:** 1984 **Cost:** $699; $995 (dual bin)

THE PRINTER WORKS

☐ PS3625
Hardware required: IBM PC and compatibles **Description:** Switching device allows computer to transmit data to two printers simultaneously **Cost:** $120

QUADRAM
(subsidiary of Intelligent Systems Corp.)

☐ Interfazer
Hardware required: IBM PC; Apple II **Description:** Printer controller/buffer receives data from up to eight computers via serial or parallel cards; Operates on priority port system and functions as incompatible device interface, computer I/O expander and data transfer rate converter **Cost:** $295

RAINBOW TECHNOLOGIES, INC.
SEE AD ON PAGE 237

☐ PC-Writer
Hardware required: Okidata; IBM PC **Description:** Full emulation of IBM Graphics printer and FX Series on Okidata ML-82A, ML-83A **Units sold:** 5,000 since 1984 **Cost:** $99

SPIES LABORATORIES

☐ IBM NicePrint
Hardware required: IBM PC **Description:** Upgrades print quality of IBM, Epson, Okidata, Panasonic and Gemini dot matrix printers; 13 fonts and side-kick pop-up window **Units sold:** 5,000 *since 1984* **Cost:** $95

SUNCOAST/EASYCOM

☐ BF64D
Hardware required: Most microcomputers **Description:** One computer shares 2 Centronics parallel printers; 0K, 64K or 256K buffer. **Cost:** $232-$297

☐ BF64M
Hardware required: Most microcomputers **Description:** Four computers share one parallel printer; 64K or 256K buffer. **Cost:** $338-$403

☐ BF64MD
Hardware required: Most microcomputers **Description:** Four computers share two printers; Serial, parallel avail.; 64K or 256K buffer. **Cost:** $366-$431

☐ BF64U
Hardware required: Most microcomputers **Description:** Serial/parallel in or serial/parallel out switch with 64K or 256K buffer **Cost:** $253-$329

TACTICAL ELECTRONICS CORP.

☐ Automatic Printer Switch
Hardware required: IBM PC and compatibles **Description:** Allows six PCs to share one printer; parallel interface **Cost:** $400

TALL TREE SYSTEMS
SEE AD ON PAGES 207/209

☐ JLASER
Hardware required: IBM PC **Software required:** FONTRIX; PRINTRIX **Description:** Piggybacks onto JRAM-3 or AT-3 and connects to a Canon-based laser printer engine; transfers bit-mapped images from RAM, bypassing on-board print buffer; multiple type font combinations

VON LEIVENDYKE ENTERPRISES

☐ ConvertaBuffer CBP-64
Hardware required: IBM PC, XT, AT, jr, Portable **Description:** External box attaches to outside of PC system unit; parallel-to-parallel interface and 64K buffer **Introduced:** 1983 **Cost:** $249

☐ Graphics ConvertaBuffer
Hardware required: IBM PC, XT, AT, jr, Portable **Description:** External box attaches to outside of PC system unit; parallel-to-parallel interface and 64K buffer; translates dot matrix graphics into daisy wheel graphics **Introduced:** 1983 **Cost:** $349

☐ Original ConvertaBuffer
Hardware required: IBM PC, XT, AT, jr, Portable **Description:** External box attaches to outside of PC system unit; parallel-to-serial interface and 32K buffer **Introduced:** 1982 **Cost:** $239

SECURITY DEVICES

ANCHOR PAD INTERNATIONAL, INC.

☐ Anchor Pads
Hardware required: IBM PC **Description:** Locking devices anchor equipment to surfaces without drilled holes or marred furniture **Units sold:** 200,000 since 1972 **Cost:** $30-$300

ARNET CORP.

☐ PC-GARD
Hardware required: IBM PC, XT, AT and compatibles **Description:** Operates in transparent mode to allow normal keyboard operation; includes software for IBM PC for custom programming of each module **Introduced:** 1985 **Cost:** $99

BIRCHEM COMPUTER PRODUCTS

☐ The Greeting Card II
Hardware required: Apple II, II+, IIe **Description:** Provides password security; leaves short messages for other computer operators; stores up to eight programs **Introduced:** 1985 **Cost:** $90

BRADY OFFICE MACHINE SECURITY, INC.

☐ Lucasey Security
Hardware required: IBM PC; Apple and compatibles **Description:** Protects computer hardware or office related machines through bolt-down or glue-down mounting methods **Units sold:** 30,000 since 1983 **Cost:** $50-$137

COMPUTER SECURITY CORP.

☐ Sentinel
Hardware required: IBM PC, XT, AT and compatibles **Description:** Limits access to PC through specified password; logging, clock, memory, and default encryption protection **Introduced:** 1984 **Cost:** $445-$595

CVI LASER CORP.

☐ KBD-LOCK
Hardware required: IBM PC, XT; Compaq Deskpro; AT&T PC; DG D410/460 **Description:** System active keyboard lockout uses keyed locking device **Units sold:** 250 since 1985 **Cost:** $50-$70

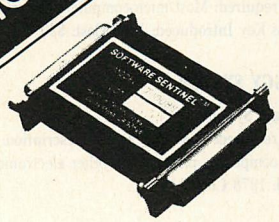
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CIRCLE NO. 318 ON READERS SERVICE CARD

CYTROL, INC.

☐ CyLock
Hardware required: IBM PC, XT, AT **Software required:** PC DOS **Description:** Provides PC access protection; encrypts and controls files for private or shared use; records and reviews security and accounting audit trail **Introduced:** 1984 **Cost:** $549

DATAKEY, INC.

☐ DK1401 DataKey
Hardware required: RS-232C **Description:** 1,400 bit semiconductor memory designed in the shape of a key **Units sold:** 150,000 since 1981 **Cost:** $9

☐ NL1400
Hardware required: RS-232C **Description:** Host and data access control module; standalone or host-controlled operation; authenticates passwords and identification data stored in DataKeys **Units sold:** 54 since 1985 **Cost:** $600

☐ NL1400M
Hardware required: Most microcomputers **Description:** Host and data access control module with integral modem; standalone or host-controlled operation; authenticates passwords and identification data stored in DataKeys **Units sold:** 350 since 1985 **Cost:** $1,000

DIRECTOR TECHNOLOGIES, INC.

☐ Disk Defender
Hardware required: IBM PC, XT and compatibles **Description:** Write protect device for fixed Winchester disks **Introduced:** 1986 **Cost:** $185

FMJ, INC.

☐ Computer Escort
Hardware required: IBM PC, XT, AT and compatibles **Description:** Modular security and desk top storage device; dual-key-lock front cover **Introduced:** 1983

GORDIAN SYSTEMS, INC.

☐ Access Key
Hardware required: IBM PC **Description:** Hand-held, battery powered device is held against flashing pattern on screen; data is optically read by Key and combined with data residing in Key to produce access code entered from keyboard **Cost:** $6,000

☐ Access Key Pad
Hardware required: Most microcomputers **Description:** Used with Access Key **Introduced:** 1986 **Cost:** $30

THE HUGGY SYSTEM

☐ The Huggy System
Hardware required: IBM PC; Apple **Description:** Anti-theft device for computers, printers and other electronic machines **Introduced:** 1978 **Cost:** $15

INDUSTRIAL RESOURCE ENGINEERING, INC.

☐ SCRAMBLER
Hardware required: IBM PC and compatibles **Description:** Prevents unauthorized access to confidential files transmitted over public phone lines; Data Encryption Standard **Introduced:** 1984 **Cost:** $559-$959

INMAC

☐ Guard/Surge Suppressor
Hardware required: IBM PC, XT **Description:** 16-gauge steel cabinet connects CPU to computer stand; roll-out shelf for keyboard, bolts, washers and two keys **Cost:** $199-$279

☐ Thiefstopper
Hardware required: IBM PC **Description:** Motion detector connects to PC's ventilation slots; key required for removal or alarm silencing; includes two keys **Cost:** $99

INTERNATIONAL ELECTRONIC TECHNOLOGY CORP.

☐ K-SafeCard
Hardware required: IBM PC, XT and compatibles **Description:** Expansion card with set of switches can be set for up to eight-digit code; computer can not be operated without proper code sequence; after six unsuccessful attempts have been made, electronic alarm sounds **Introduced:** 1985 **Cost:** $200

KAPAK DESIGN

☐ Lock & Clock
Hardware required: IBM PC and compatibles **Description:** Code Lock for software protection; clock calendar **Units sold:** 200 since 1985 **Cost:** $150

MICRO SECURITY DEVICES, INC.

☐ PC Guardian II
Hardware required: IBM PC, XT, AT, XT/370, 3270 and compatibles **Description:** Prevents unauthorized access to data; locks power switch in either on or off position; protects against theft of monitor, keyboard, computer boards, and system unit **Units sold:** 200,000 since 1984 **Cost:** $49

☐ PC Guardian Theft Prevention
Hardware required: IBM PC, XT, AT, XT/370, 3270 and compatibles; Apple II, IIe, II+ **Description:** Anti-theft protection for computer boards and internal components, keyboard, monitor and system unit **Units sold:** 200,000 since 1985 **Cost:** $25

MICROCOMPUTER ACCESSORIES, INC.

☐ Security Alarm
Hardware required: IBM PC, XT **Description:** Sensitive motion detection circuit triggers piercing siren; locks monitor, keyboard and printer cables to security alarm **Introduced:** 1984 **Cost:** $100

PC ACCESSORIES, INC.

☐ DATA LOCK IV
Hardware required: IBM PC **Description:** Prevents unauthorized access to XT hard disk; fastens to PC cabinet, secures power switch and prevents removal of cover without proper key **Introduced:** 1984 **Cost:** $95

☐ NIP & TUCK
Hardware required: IBM PC **Description:** Secures IBM keyboard, CPU, and expansion boards against theft or damage; non-invasive steel straps **Cost:** $185

RAINBOW TECHNOLOGIES, INC.
SEE AD ON PAGE 237

☐ Software Sentinel
Hardware required: IBM PC, XT, AT and compatibles **Description:** Hardware key embedded with algorithm protects matching software product from unauthorized use; connects parallel port **Units sold:** 50,000 since 1984 **Cost:** $30-$75

SOFTWARE SECURITY, INC.
SEE AD ON PAGE 393

☐ The Block
Hardware required: RS-232C **Description:** Software protection; program transfers to hard disk; DB-25 connectors available **Cost:** $39

STAFF COMPUTER TECHNOLOGY CORP.

☐ The Key
Hardware required: IBM PC, XT, AT; Apple II, II+, IIe; Most microcomputers **Description:** Portable devices control software piracy or unauthorized remote computer access; unrestricted back-up and use of hard disks and LANs **Introduced:** 1983 **Cost:** $15-$225

TACT TECHNOLOGY

☐ MicroSentry
Hardware required: IBM; Apple **Description:** Screens calls directed to computer and diverts calls from modem to extension phone; screens personal and business calls. **Introduced:** 1983 **Cost:** $695

☐ Scrambler
Hardware required: RS-232C **Description:** Hardware encryption device uses the DES algorithm to encrypt transmissions and authenticate identity of remote devices attempting to access computer system. **Introduced:** 1983 **Cost:** $495-$1,225

VOYAGER DEVELOPMENT, INC.

☐ SPR500/550
Hardware required: IBM PC; RS-232C **Description:** Uses ADAPSO Lock and Key Ring concept for software protection, access control and data security through encryption while maintaining transparency; up to eight keys on-line simultaneously **Units sold:** 2,000 since 1985 **Cost:** $55

XTRATEK CORP.

☐ X-File
Hardware required: IBM PC and compatibles **Description:** File data encryption and locking security package; locks/unlocks files with one to eight-character password **Units sold:** 40 since 1985 **Cost:** $79

☐ X-Lock 100
Hardware required: IBM PC and compatibles **Description:** Creates up to 72 accounts, each with one to 16-character passwords; provides resource management function **Units sold:** 50 since 1985 **Cost:** $295

SPEECH/MUSIC SYNTHESIS

ARTIC TECHNOLOGIES

☐ SynPhonix jr
Hardware required: IBM PC*jr* **Description:** *Unlimited vocabulary* capabilities via Text-to-Speech (automatic) or Phonetic Speech Editor (manual); software transparent **Introduced:** 1985 **Cost:** $175

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Speech Attachment
Hardware required: IBM PC, jr **Description:** 196 words and sounds; records speech on diskette through microphone input. **Cost:** $300

ROLAND DG
(division of Roland Corp. US)

☐ MKB-300; MKB-1000
Hardware required: IBM PC **Description:** Master keyboards for music synthesis; MKB-1000 has 88 wooden, piano-action keys; MKB-300 has 76 plastic keys **Introduced:** 1984 **Cost:** $1,295-$2,195

☐ MKS-10 PLANET P
Hardware required: IBM PC **Description:** 16-voice electronic piano module **Introduced:** 1984 **Cost:** $995

☐ MKS-30 PLANET S
Hardware required: IBM PC **Description:** Six-voice programmable polyphonic synthesizer module **Introduced:** *1984* **Cost:** $995

☐ MKS-80 SUPER JUPITER
Hardware required: IBM PC **Description:** Eight-voice, 16 VCO synthesizer accepts 88 keys of information without wrapping; responds to velocity and after-touch data **Introduced:** 1984 **Cost:** $2,495

STREET ELECTRONICS CORP.

☐ Cricket
Hardware required: IBM PC, jr; Apple II, II+, IIe, III and compatibles **Description:** Natural and robotic type voice synthesis; stereo music; sound effects; built-in speaker; headphone jack; on-board clock; cable for RS-232C interface; utility software **Cost:** $180

TOUCH SCREENS

ALPS ELECTRIC (USA), INC.
(subsidiary of Alps Electric Co., Ltd.)
SEE AD ON PAGE 169

☐ FFZT
Hardware required: RS-232C **Description:** Optical touch screen with finger touch operation

BFA SALES
(division of Aquila Technologies Group, Inc.)

☐ Soft-Touch
Hardware required: Apple; IBM PC and compatibles; Sony **Description:** Fits IBM 5151 monochrome monitor or Princeton Graphics Systems 12-inch monitors; bezel contains Soft-Touch circuitry and snaps onto front of monitor; touch resolution: 21 (vertical) X 27 (horizontal); 567 active points

DETECTOR ELECTRONICS CORP.

☐ Touch Screen
Hardware required: Apple; IBM PC **Description:** Resistive mylar membrane; 256 X 256 resolution **Introduced:** 1983

MICROTOUCH SYSTEMS, INC.

☐ Screen-Kit
Hardware required: RS-232C **Software required:** Drivepoint **Description:** Fits most monitors, terminals and flat panel devices; offers high resolution **Introduced:** 1982 **Cost:** $995

PERSONAL TOUCH CORP.

☐ Touch Window-I
Hardware required: IBM PC, XT, AT and compatibles **Description:** Attaches to monitor; used as graphics tablet, menu pad or Interactive Book Pad **Units sold:** 6,000 since 1985 **Cost:** $230

TRACKBALLS

DISC INSTRUMENTS
(a Honeywell subsidiary)

☐ comLYNX
Hardware required: OEM RS-232C; IBM PC, XT, AT **Description:** Emulates the Microsoft mouse **Introduced:** 1986 **Cost:** $119

☐ microLYNX
Hardware required: IBM PC, XT and compatibles **Description:** User programmable to suit application software without requiring any software support or memory **Units sold:** 8,400 since 1985 **Cost:** $195

HONEYWELL INFORMATION SYSTEMS, INC.

☐ uLynx
Hardware required: IBM PC and compatibles **Cost:** $195

T.G. PRODUCTS, INC.

☐ Track Ball
Hardware required: Apple II, IIe; IBM PC **Description:** Omnidirectional guidance system for quick response to rapid movement commands **Units sold:** 35,000 since 1982 **Cost:** $10

OTHER DEVICES

AVOCADO COMPUTER

☐ Grayscaler
Hardware required: IBM PC, XT, AT; Compaq; Columbia **Description:** Converts monochrome monitor to color monitor **Cost:** $60

CAUZIN SYSTEMS, INC.

☐ Softstrip System Reader
Reviewed May 1986 p. 29.
Hardware required: IBM PC and compatibles; Apple II Series, Macintosh **Description:** Optical scanning system reads, decodes and enters data from 5/8" wide strips; strips contain up to 5.5K of encoded data **Introduced:** 1985 **Cost:** $200

HAYES MICROCOMPUTER PRODUCTS, INC.
SEE AD ON PAGE 143

☐ Transet 1000
Hardware required: Microcomputer with RS-232C port **Description:** Frees computer from peripheral operations and allows simultaneous operation of peripherals; print buffering and printer management; port options and controls; background communications (requires modem) **Introduced:** 1985

IGC, INC.

☐ IGC Adapter
Hardware required: IBM PC **Description:** Connects PC through color graphics card to Mitsubishi 3920

PERMA POWER ELECTRONICS, INC.

☐ The Color Commander
Hardware required: IBM PC, XT and compatibles **Description:** Color control center connects between PC and RGB color monitor **Introduced:** 1986 **Cost:** $359

TORI' CORP.

☐ Interceptor
Hardware required: IBM PC, XT, AT; HP 150; Apple Macintosh **Description:** Installs between keyboard and PC; transparent multipoint conferencing via internal 1,200 bps modem **Introduced:** 1986 **Cost:** $795

TRAILRIDGE RESEARCH, INC.
SEE AD ON PAGE 205

☐ Add-A-Slot
Hardware required: IBM PC and compatibles **Description:** Allows an additional expansion board slot to be plugged in between two existing slots **Introduced:** 1986 **Cost:** $45

WGE INTERNATIONAL, LTD.

☐ Tilt and Swivel Power Center
Hardware required: IBM PC and compatibles **Description:** Five individually switched outlets with surge protection; resettable mini breaker **Cost:** $80

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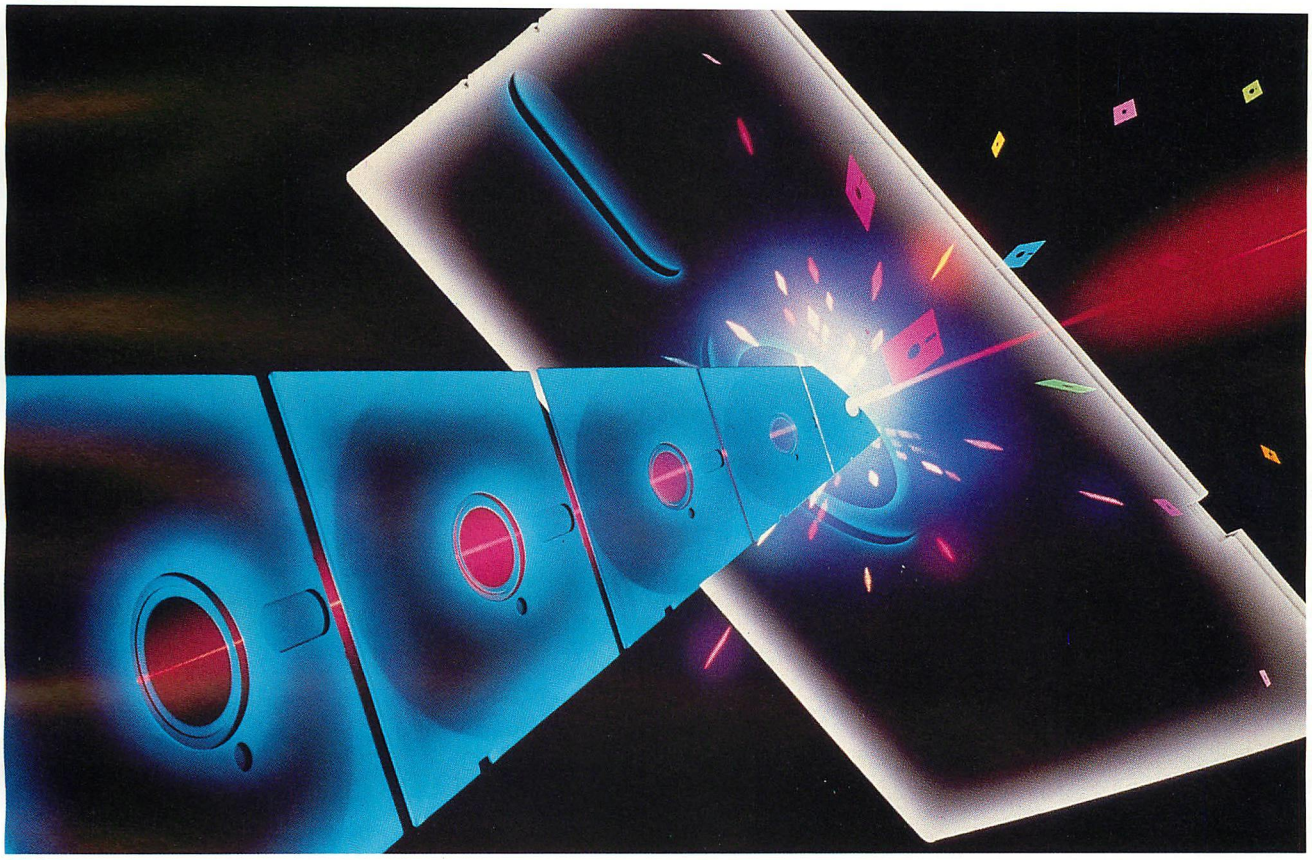
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SYSTEMS SOFTWARE



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☐ Creator

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IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $99

AIMS + PLUS, INC.

☐ Aimsplus

Stores parameter inputs as data files which drive interpretive software. Provisions for exiting if exception code necessary. Applications access common data base.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,100 since 1978 ☐ Cost: $500-$6,500

☐ Remember

Add-on module for AIMSPLUS. Automates and combines manual procedures as single, menu-selectable process. Documents tasks in report format.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $800-$1,000

☐ Stat Plus

Histogram generator. Add-on module for AIMSPLUS. Displays relations between field and number of occurrences or percent of occurrences in addition to means, variances, standard deviation and total records analyzed.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 200 since 1981 ☐ Cost: $1,000

AION CORP.

☐ ADS/PC

Expert system applications development. Provides interactive editors, security, version control, graphics and multiple developer support.

IBM PC, AT ☐ 512 KB req. ☐ Cost: $750-$7,000

ALPHASOFT

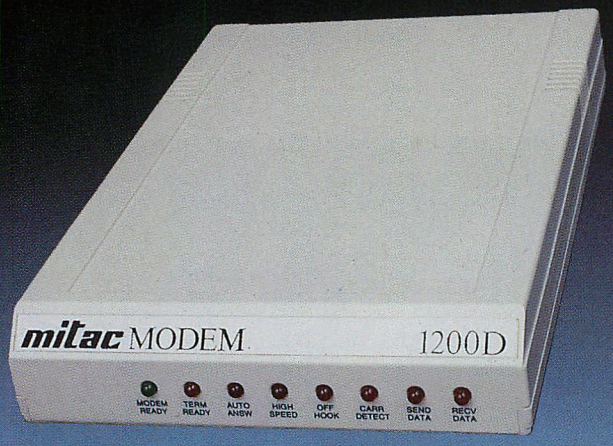
☐ F.I.R.S.T. System

Maintains one or more data files, formats files into any record format, performs on-line full screen file maintenance and inquiry, sorts and selects subset of file by logical comparision criteria and lists sorted file in user-defined report format.

IBM PC ☐ 10 KB req. ☐ Copies sold: 40 since 1979 ☐ Cost: $500 per CPU

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We admit that there is nothing extra special about our external and internal (half-card) modems . . . except for the low $149 price.

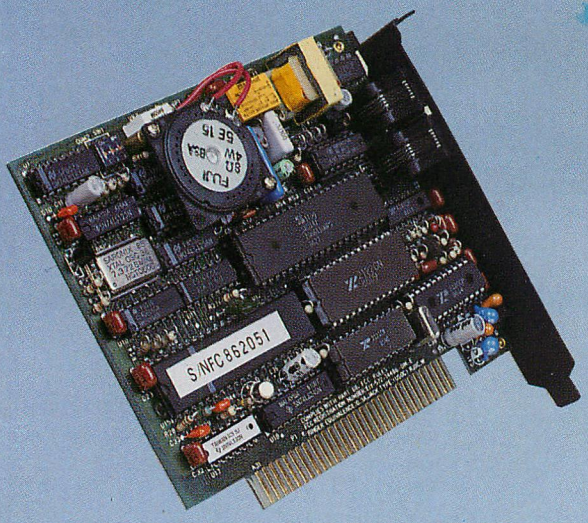
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Hayes is a registered trademark of Hayes Microcomputer Products Inc.

ANDYNE COMPUTING LTD.

☐ PCMascot

Allows real-time system developer to produce application systems which utilize concurrently executing programs to solve control or data acquisition problems. Synchronizes process execution through kernel primitives. Includes interrupt handlers. Kernels include application debug support.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $1,000

ASHTON-TATE

☐ dBASE III: The Developer's Release

Enables third-party developers to build custom applications using a relational DBMS.

IBM PC, XT, AT ☐ 256 KB req.

AT&T

Electronic Photography and Imaging Center

☐ Video Terminate and Stay Resident Software (ATTTSR)

Accessed via MSDOS software interrupt. Develops applications involving display/manipulation of continuous tone images from high-level programming languages. Reduces images to quarter size. Applies data and color compression techniques. Used with Truevision video Display Adapter or Image Capture Board.

IBM PC ☐ Introduced: 1985 ☐ Cost: $100

AUTOMATA DESIGN ASSOCIATES

☐ VML PROLOG

Reviewed Jan 1986 p. 145.

Fifth generation development tool for intelligent systems. Complies to Edinburgh syntax. Provides floating point arithmetic, virtual memory capability, exec function and stream input, debugging, tree-structured dynamically configurable domain system, and grammar rule notation.

IBM PC ☐ 320 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $200

THE BOSTON SOFTWARE WORKS

☐ BSW-Make

Implements UNIX make utility. Builds applications based on dependencies between files. Compiles, assembles or links affected files. Supports most compilers/assemblers, macros for parameterized builds and default rules. Manages text formatting and document preparation.

IBM PC ☐ Cost: $90

BYTEL CORP.

Software Development Division

SEE AD ON PAGE 364

☐ Genifer

Creates structured programs using dBASE III language. Includes data base definitions dictionary. Manages several applications simultaneously. Creates screens, menus and reports. Defines 9 zoom relations between files. Validates data against ranges, lists, separate code files and defaults.

IBM PC ☐ Cost: $395

CANNED KNOWLEDGE CORP.

☐ PROCODE

Generates COBOL business applications. Self-generates written operators guide and integrates all programs into functional system.

IBM PC ☐ 64 KB req. ☐ Copies sold: 500 since 1983

CAP GEMINI SOFTWARE PRODUCTS, INC.

(division of CAP Gemini Sogeti)

☐ MultiPro

Life cycle automation tool. Links IBM XT or AT to IBM mainframe running VM or MVS. Development tasks downloaded to workstation. Mainframe-resident project library manages components including specifications, flowcharts, data flow diagrams, programs and documentation. Windowing capability.

IBM XT, AT ☐ 512 KB req. ☐ Copies sold: 40 since 1984 ☐ Cost: $2,950

COMPUTER CORP. OF AMERICA (CCA)

☐ Accolade

CICS, CICS/VS-DL/I, COBOL and PCDOS application development environment. On-line screen design and map generator, COBOL code generator, data dictionary, full-screen editor, testing facilities, printer despooling system, password, terminal and data security, and source error message and help text maintenance facilities.

IBM PC, XT, AT, 3270-PC ☐ 1,000 KB req. ☐ Copies sold: 75 since 1982 ☐ Cost: $500-$1,500

☐ PC/Workshop

Prototypes, codes, edits and compiles Model 204 DBMS applications at PC without using mainframe resources.

IBM PC, XT, AT ☐ 384 KB req.

CONETIC SYSTEMS, INC.

☐ C/Tools

Data base application generation system and utilities. Performs file, entry form, menu and report creation by answering prompts. Provides utilities for converting, copying and duplicating files.

IBM PC ☐ 256 KB req. ☐ Copies sold: 500 since 1982 ☐ Cost: $795 and up

CONVERGENT SOLUTIONS, INC.

☐ Formal Applications Structuring Technique

Library of routines for context management, memory management, function key processing, error handling and forms management. Scrollable form areas. Simulates system functions before writing code. Default screen environment and debug facility.

IBM PC ☐ 512 KB req. ☐ Copies sold: 35 since 1983 ☐ Cost: $4,500

CS LABORATORIES, INC.

☐ C/Script II

Generates RM/COBOL source code for report, file maintenance and inquiry programs. Includes data dictionary and 3 program generators.

IBM PC ☐ Copies sold: 40 since 1982 ☐ Cost: $1,000-$3,500

DASTRA AMERICA, INC.

☐ MU/FO

Includes Real-time Executive, Database Manager and Application Processor modules. Supports disk buffering, transaction file, data security, record lockout, concentric forms, form definition, records/lists, form/report generation, variable records, forms editing, word processor and accounting system.

IBM XT, AT

DATA ACCESS CORP.

SEE AD ON PAGE 309

☐ DataFlex

Reviewed Aug 1985 p. 52.

Comprehensive, transportable application development environment for 8/16 bit, single-/multi-user and LAN systems. Provides programming language, relational DBMS, image screen processor, code/report generator and utilities. Includes file definition, on-line, multi-key ISAM and user-defined macros. Word processing option available.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 40,000 since 1981 ☐ Cost: $750-$1,250

DATA INTERFACE SYSTEMS CORP.

☐ DIS31 (Data Interface System 31)

PC to mainframe full-screen interface to applications developed in COBOL under async driver. Screen/hardcopy function switching, report browsing tools, applications developed with built-in screen painter, and standard file I/O for nonterminal files.

IBM PC ☐ 128 KB req. ☐ Copies sold: 1 since 1984 ☐ Cost: $475

DATAMED RESEARCH, INC.

☐ Miniac

Creates vertical market software. Combines standard UCSD Pascal with Macro language preprocessor plus precompiled units and other standard code. Preserves programmer control over nature and operation of final product. Macros cover file management, sorting, searching, data entry and report writing.

IBM PC ☐ 64 KB req. ☐ Copies sold: 50 since 1979 ☐ Cost: $450

DIGITAL RESEARCH, INC.

☐ GEM 86 Developer Kit

Designs graphics-based applications for GEM Programmer's Support service. Language bindings and device drivers. Creates raster graphics such as icons, pull-down menu, windows and dialogue-alert boxes.

IBM PC ☐ 512 KB req. ☐ Cost: $500

DIGITALK, INC.

☐ Methods

Implements Smalltalk object-oriented programming environment. Enables PC to access remote UNIX systems via RS-232 port. Reads UNIX files/directories without issuing UNIX commands. Accesses computer bulletin boards via modem. Executes DOS/UNIX commands/programs.

IBM PC ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $79

DIMENSION SOFTWARE SYSTEMS, INC.

☐ FREEFORM

Front end application development for Britton Lee IDM. Screen builder, report writer and internal language. Applications developed on one host run unaltered on other hosts.

IBM PC ☐ 320 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $15,000

DYNAMIC MICROPROCESSOR ASSOCIATES

☐ FORMULA IV: The Application Creator

Relational data base with ability to run multi-user without networking or hardware modification. Designs custom applications using English-phrase command language. Contains an on-line help facility and free-format report generator. Sorts and updates.

IBM PC, AT, XT ☐ 256 KB req. ☐ Copies sold: 15,000 since 1984 ☐ Cost: $695

EDVENTURE SOFTWARE PUBLISHING, INC.

☐ ESA

Stores and retrieves 250 display formats and data linkages. Validity checking. User-definable display formats and diagrams. Windows. DBMS. Supports engineering, scientific and management science applications, linear programming, project scheduling and solution of linear and nonlinear equations.

IBM PC

FLEXWARE

(division of Microfinancial Corp.)

☐ Application Development System

Application definition using common data dictionary, data base, application modifications and end-user documentation. Provides formatted screen data collection, operator interaction, report writer, query processor, record and file locking and data protection. Allows customization.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 400 since 1975

FORTH, INC.

☐ polyFORTH II ISD 4

Integrated real-time application development system. Includes real-time, multi-tasking/user OS, FORTH high-level language compiler, assembler, editor, interactive debugging aids and utilities.

IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 2,000 since 1973 ☐ Cost: $600-$3,200

FOX & GELLER, INC.

☐ QUICKMAC
Simplifies macro programming. Develops applications while running Lotus 1-2-3. Includes full screen editor, syntax-checker and macro facility.
IBM PC ☐ 320 KB req. ☐ Introduced: 1985 ☐ Cost: $129

FUTURE TECHNOLOGIES INTERNATIONAL, INC.

☐ Environment
Applications generator and information management. Includes relational data access programming. Develops integrated applications comprised of single data base structure. Provides shared information capability. Multiple methods for data I/O. Audit trail capability. Self-documenting.
IBM PC ☐ 256 KB req. ☐ Copies sold: 200 since 1981 ☐ Cost: $5,000-$300,000

GATEWAY SYSTEMS CORP.

☐ Synergist
Develops and maintains on-line applications using PC while securing/maintaining data base on HP 3000. Uses fill-in-the-blanks programming. Reduces host utilization. Checks for errors.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $9,000-$22,000

GENERAL DATA SYSTEMS, LTD.

☐ Dx Menu-Driven Interface
DBMS portable environment. Provides interfaces to develop application on-line or on PC with GDS' Dx Data Dictionary, Dx Relational Data Base, Dx Transaction Generator, Dx Source Librarian, Dx Report Generator, Dx Screen Generator, Dx Database Language and Dx Host Language Interfaces.
IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983

☐ Dx System
Supports development and operation of high volume on-line transaction-oriented systems. Combines relational data base technologies centered around a data dictionary with fourth generation language. Includes non-procedural capabilities for screen, report and program generation. Develops portable applications.
IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983 ☐ Cost: $1,400

GLOBAL TECHNOLOGIES CORP.

☐ dBase Development System
Application development system for dBASE II and III. Provides source, utilities and programs for application development. Includes editor, library manager and windows. User can edit 4 command files on screen.
IBM PC ☐ Cost: $245

H & A COMPUTER SYSTEMS

☐ PXS (Program Executive System)
Applications development and operations extension for DOS. Provides high-level language menu processor, job stream processor, sort, disk utilities, production system control, print spooler and data management for direct, sequential and multi-indexed files with file recovery.
IBM XT, AT ☐ 150 KB req. ☐ Copies sold: 150 since 1985 ☐ Cost: $590-$1,180

☐ PXS Program Executive System
Application development and operations extension for EDX. Offers high level language, menu processor, job stream processor, screen generator, report generator, partition manager, sort, utilities, documentation system, file management for sequential, direct and multi-indexed files, and automatic file recovery.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 3,500 since 1977 ☐ Cost: $1,500-$3,000

HAWAIIAN VILLAGE COMPUTER SOFTWARE

☐ Turbo ISAM Master
Generates Turbo Pascal programs using Borland's Turbo Database Toolbox. User can add, delete and edit records. Searches data base by key. Provides data base recovery. Supports multiple ISAM files. Interfaces HVCS's Turbo Screen Master.
IBM PC, XT, AT ☐ 196 KB req. ☐ Cost: $125

☐ Turbo Menu Master
Generates Turbo programs with dedicated screens or windows. Includes menu data base. Uses multiple screen colors. Allows entry and reorder of selections. Generates procedure, chain, execute or comment code for each selection.
IBM PC, XT, AT ☐ 196 KB req. ☐ Cost: $55

☐ Turbo Screen Master
Generates multi-screen programs. Allows user-specified field edits and processes. Generates screens independent of user-inserted program statements. Supports structures, arrays and declarations specifications. Redisplays protected field if value changes. Stores fields as Boolean, integer, real, character or string.
IBM PC, XT, AT ☐ 196 KB req. ☐ Cost: $90

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Application Display Management System
Reviewed Apr 1985 p. 149.
IBM no. 6024-119. Application Display Designer modifies screens, handles input and edits application program. Application Display Manager is run-time module to display screens as previously defined while controlling input, editing and keyboard function.
IBM PC, XT, Portable PC, AT, PCjr ☐ 128 KB req. ☐ Cost: $150

☐ EZ-Prep (Cross System Product/Application Generation)
IBM no. 6317-011. Executes IBM 81XX, 43XX, 30XX-based Cross System Product applications on IBM PC series. Supports sequential, relative record and indexed files. Imports and generates host developed applications. Imports application message files. Imports/exports application data files.
IBM PC, Portable PC, XT, AT, XT/370, 3270-PC, 3270-PC/G, 3270-PC/GX ☐ Cost: $1,200

☐ EZ-Run (Cross System Product/Application Execution)
IBM no. 6317-010. Executes EZ-Prep/processed applications and imports/exports application data files. Can be run in IBM TopView environment or invoked from IBM's PROFS/PC.
IBM PC, Portable PC, XT, AT, XT/370, 3270-PC, 3270-PC/G, 3270-PC/GX ☐ Cost: $125

☐ EZ-VU (ISPF/PC Development Facility)
IBM no. 6410-980. Provides screen editor with full-screen support. Creates and modifies screens interactively with program function keys. Sample panel facility creates similar panels from previously defined panels. Panel test facility views panels. Requires EZ-VU Runtime Facility.
IBM PC ☐ 128 KB req.

☐ ISPF XT/370 (Interactive System Productivity Facility)
IBM no. 5668-960/01.
IBM XT/370 ☐ Cost: $600

☐ Personal Computer Organizer
IBM no. 6317-027. Assists in installation of variety of specific applications.
IBM PC, XT, AT, XT/370, AT/370, 3270-PC ☐ 256 KB req. ☐ Cost: $150

INFOCENTRE, LTD.

☐ Speedware/MicroSpeedware
Menu and function key driven fourth generation application development. Designs and generates application source code, IMAGE data bases and customized user documentation. Includes designer, reactor, documentor, key retrieval, DBMS, microreactor and report writer.
IBM PC ☐ 256 KB req. ☐ Copies sold: 700 since 1980

INSPIRATION SYSTEMS, INC.

☐ Prevail - Applications Development Language
Generates customized applications. Couples with Prevail DBMS and Report Writer and has similar statement constructions. Combines data base and ASCII file data. Generates custom reports. Interfaces with other Prevail modules.
IBM PC ☐ 2,000 KB req. ☐ Copies sold: 100 since 1984

INTERNATIONAL SOFTWARE ALLIANCE

☐ Btrieve Record Manager
Builds files based on B-tree structures. Permits random and sequential keyed access to records in data base.
IBM PC ☐ Cost: $245

LANDRUM SOFTWARE, INC.

☐ File Clerk * Reporter
Creates BASIC programs by answering plain English questions. Report writer. Converts data as filing requirements change. Indexing and dynamic file search. Compilable.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 86 since 1982 ☐ Cost: $249

LATTICE, INC.

SEE AD ON PAGE 279

☐ TopView Toolbasket
Designed for application development with IBM's TopView multi-tasking/-window environment. Reduces use of Assembly language when interfacing with TopView. Controls windows, cursor, pointer and printer operations. Accesses TopView's cut and paste facilities. Offers debugging.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $250-$500

LIFEBOAT ASSOCIATES

SEE AD ON PAGE 291

☐ Formula II
Permits 16-bit programs to run in 8-bit environment, with single-user to multi-user modification. Consists of relational data base with sorting and selection, data recovery, English-based query language, form and report creator.
IBM PC ☐ 64 KB req. ☐ Copies sold: 3,000 since 1983 ☐ Cost: $695

LOGIQUEST, INC.

☐ Application 1
Set of Assembly routines that are extensions to IBM DOS, BASIC and Microsoft C. Creates network applications with choice of file or record locking. Develops and executes applications up to six times faster. Unlimited files, fields, records and 8087/80287 support.
IBM PC ☐ 256 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $595

MAINSTAY SOFTWARE CORP.

☐ Mainstay
Develops analytical applications. Includes DBMS, programming language and interface toolkit. Provides environment for information analysis, modeling, forecasting, time-series, analytical data base querying and mathematical and financial functions.
IBM XT, AT ☐ 640 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $1,495

MAJIC SOFTWARE, INC.

☐ Mystic
Applicable to personnel records, MIS, mailing lists, sales and order processing, memberships and subscriptions, invoicing, tax computation, legal systems, medical records and real estate systems. Produces input and enquiry screens, menus, multi-file update and full, selective or conditional reports.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985

MICRO DATA BASE SYSTEMS, INC.

☐ K-Mouse
Mouse processing utility for KnowledgeMan/2. Calls can be imbedded within program logic of any KnowledgeMan/2 procedure.
IBM PC ☐ 320 KB req. ☐ Introduced: 1984 ☐ Cost: $100-$375

MICRO FOCUS, INC.

☐ Sourcewriter
Data dictionary based application generator. Provides data entry with range, lock-up, data-checks, data manipulation, file maintenance, screen-based inquiries, printed reports and service programs.
IBM PC ☐ 48 KB req. ☐ Introduced: 1983

MICRO/SYS

☐ BUS/Bridge
OEM board-level, embedded PROM development system. Accommodates MULTIBUS 8085/8086, MULTIBUS II 80286, VME BUS 68000, STD BUS 8088 and STD BUS Z80.
IBM PC ☐ 256 KB req. ☐ Cost: $1,295-$6,120

MICRO WORKSHOP

☐ Mastering 1-2-3 Macros and Databases
Designed for Lotus 1-2-3 versions 1A and 2. Includes desk and project management, macro-driven data base applications. Uses building block approach to create applications.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $40

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ Multiplan Application Programs
Builds worksheets for budgeting, financial statement ratio analysis and cash flow analysis.
IBM PC, XT ☐ 64 KB req.

MID-AMERICAN CONTROL CORP.

☐ Prompt Data Base Facilities
File definition, screen formatting, data entry, report writer, inquiry and transaction processing with relational data base access method. Integrates with PROMPT Data Language.
IBM XT, AT ☐ 128 KB req. ☐ Copies sold: 400 since 1978 ☐ Cost: $3,000

MIGENT SOFTWARE, INC.

☐ ENRICH
Allows users to take their own methods of doing business and incorporate them into each application. Suited to such applications as client records, financial reports, production/sales updates and office management forms.
IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 1,200 ☐ Cost: $395

MSI DATA CORP.

☐ ASDS
Creates programs for Azurdata Scorepad handheld terminal using PASCAL. Completed or altered programs transmitted over conventional telephone lines to Scorepad terminal. Provides two-way, error checking communications protocol.
IBM PC ☐ 64 KB req. ☐ Copies sold: 5 since 1983 ☐ Cost: $2,600

NATIONAL MANAGEMENT SYSTEMS

☐ Workstation Builder
Consists of hybrid relational DBMS, communications module for uploading/downloading data with mainframe, cursor-driven menus, report writer, data base update module with editing/validation, data base query facility with ad hoc report generator and procedural script language.
IBM PC ☐ 512 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $1,995

NCP CO.

☐ Menu
Builds menu-based systems including front-ends, data entry, command language interpreters, data retrieval and mail sending and receiving programs. Validates fields, writes fields to file for data entry and executes DCL command procedures. Includes host language interface.
IBM PC ☐ Cost: $2,500-$25,000; lease plans available

NOVELL, INC.

☐ NetWare/Micro Focus
Allows NetWare users to access applications written in Micro Focus II COBOL. Micro implementation of ANSI level 2 COBOL standard. GSA approved.
IBM PC, XT, AT ☐ Cost: $495

ON-LINE BUSINESS SYSTEMS, INC.

☐ WYLBUR/pc
Provides data base development environment for PC applications programmers. Programmable communications permit communication and file transfer with other micro, mini or mainframe software. Provides full screen text editor, help facility and EXEC application programs.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $550

ORACLE CORP.

☐ SQL*IAF
Application generator and run-time system for forms-based applications. Includes screen painter. Produces multi-table query/update forms. User can apply data editing and validation criteria to data entered into forms. Extension to application generation facility in IBM's SQL/RT.
IBM RT PC ☐ Introduced: 1986 ☐ Cost: $2,000

PARAMETER DRIVEN SOFTWARE, INC. (PDS)

☐ Adept
Allows users to create applications by responding to simple English language prompts. Applications can be written to perform data input, file updates, inquiries, password protection, reporting and business forms printing. Links programs via menus.
IBM PC ☐ 512 KB req. ☐ Copies sold: 1,400 since 1984 ☐ Cost: $4,000

PECAN SOFTWARE SYSTEMS, INC.

☐ Insight Window Designer
Creates integrated window-oriented applications. Virtual library, natural library and configuration utilities. Includes window editor and data entry tools.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $80

☐ Power System Development Environment
Includes full-screen editor, file manager, configuration utilities, library manager, disk recovery tools, I/O interface and USCD Pascal compiler.
IBM PC, PCjr, Portable PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 250,000 since 1980 ☐ Cost: $100

☐ UCSD Pascal Program Development
Text editor, compiler, file handler, library utility and graphics support. Supports choice of p-code or native code or both. Separate compilation, DMA, memory segmentation, conditional compilation, extended precision arithmetics, conformant arrays and procedural parameters.
IBM PC ☐ 64 KB req. ☐ Cost: $80

PENCEPT, INC.

☐ Software Tool Kit
Applications development tool. Allows users to customize Penpad.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $195

PMI

☐ Repertoire
Modula-2 applications development toolkit. Includes full source, more than 200 low-level routines, and 4 high-level subsystems including screen design/display system, editor, natural-language analyzer, and DBMS supporting variable-length records.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1986 ☐ Cost: $64

PRO COMPUTER SCIENCES, INC.

☐ PRO-IV
Portable to ensure long-term value of applications. Developed applications are hardware, OS and data base independent and transportable vertically from micros to minis to mainframes or horizontally across vendor systems.
IBM PC ☐ 100 KB req. ☐ Copies sold: 1,500 since 1981 ☐ Cost: $2,000

QINT DATABASE SYSTEMS CORP.

☐ ADT (Application Development Tool)
Fourth generation language allows application development. Builds micro-based applications. Prototypes large scale mainframe systems. Documents user's view. Runs applications unmodified on QINT/SQL systems.
IBM PC, XT, AT

Q-N-E INTERNATIONAL

☐ Q-Pro 4
Reviewed Jan 1986 p. 126.
Fourth generation data base language. Full-screen editor. Specifies entry fields by placing cursor at entry field position and filling out form to define alpha, numeric or integer attributes and may/must enter or may/must tab instructions.
IBM PC ☐ 256 KB req. ☐ Copies sold: 8,000 since 1981 ☐ Cost: $595-$795

☐ Quic-N-Easi AG
Develops applications by typing desired screen, placing cursor at entry field positions and defining each field's characteristics. Includes menu generator and 15 pre-programmed function keys. Report generator handles 6 files, 255 accumulators, resorting and non-procedural language.
IBM PC ☐ 64 KB req. ☐ Copies sold: 4,000 since 1982 ☐ Cost: $395-$595

REALIA, INC.

SEE AD ON PAGE 295

☐ REALCICS
CICS applications development for IBM mainframe or PC. Converts CICS command-level COBOL programs to form that can be compiled by REALIA COBOL. BMS macro processor produces tables and COBOL copy members required for mapped screen use. Includes map editor.
IBM PC, XT, AT, 3270-PC ☐ 512 KB req. ☐ Cost: $995

REFERENCE TECHNOLOGY, INC.

☐ Clasix STA/F Key
Multiple key information retrieval using IAM to accelerate application development. Allows fixed or variable length records. Indexes fields within data bases stored on read-only optical disks. Interfaces with CLASIX STA/F File.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985

RELATIONAL DATABASE SYSTEMS, INC.

☐ Informix-ESQL/C
Tools for customizing data base use and writing data base applications. Embeds SQL statements and incorporates into C programs. Accesses C functions. Based on industry standard C-ISAM subrouting library.
IBM PC ☐ 512 KB req. ☐ Copies sold: 76,000 since 1985 ☐ Cost: $595 and up

☐ Informix-4GL
Fourth generation application building language. Supports industry standard SQL. Includes custom screen generation, custom menu building, built-in report writer and on-line help. Compatible with INFORMIX SQL.
IBM PC ☐ 640 KB req. ☐ Introduced: 1986 ☐ Cost: $995 up

RELATIONAL TECHNOLOGY, INC.

☐ Ingres/Applications
Fourth generation language for developing forms-based applications without conventional coding. Uses Ingres Relational DBMS' integrated data dictionary. Tests applications with prototyping. Employs visual programming tools to develop/edit forms, implement transactions/queries and define new reports/graphs.
IBM PC, RT ☐ 512 KB req. ☐ Copies sold: 2,000 since 1982

SB ASSISTANT
(division of Advanced Creative Technologies, Inc.)

☐ MultiSolver
Produces finished BASIC applications in word processing, financial planning, GL, data base, mailing list/merge letter, AR, budgets, bar charts, checkbook, invoicing, music composition and appointments.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 10,000 since 1984 ☐ Cost: $295

SOFTWARE DESIGN TOOLS, INC.

☐ X-Tools
Generates program source code for C, PL/M, Pascal, FORTRAN 77, COBOL and BASIC languages. Allows debugging, updating, modification, program testing and documenting. User can define program structure on screen, insert blocks and frame blocks with complex structures or relocate modules.
IBM PC, XT, AT

SOFTWARE MERCHANTS UNLIMITED, INC.

☐ Simple (System Implementation by Example)
Prototyping tool and application generator. Includes relational DBMS. Supports program generation, data entry/editing, logic, query, multiple file updates, program by example, pattern-recognition logic, import/export of foreign files, interruptible processing and non-procedural batch processing.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $695

SPERRY CORP.
Information Systems Group

☐ Personal MAPPER System
Fourth generation language environment. Multi-user. Networking for up to 3 terminals. Provides capability to write macro like procedures called runs.
IBM PC ☐ 256 KB req. ☐ Cost: $2,345

SPRINGTIME SOFTWARE SALES, INC.

☐ CRTForm
Applications generation system. Editor creates and maintains form files. Print utility produces user-specified hard copy and machine language run-time procedures. Programmer can control screen interaction and data entry.
IBM PC ☐ 256 KB req. ☐ Copies sold: 3,000 since 1981 ☐ Cost: $400

THE SUCCESS PRESS

☐ Turbo Pascal Library
Sixty procedures to execute DOS commands or BIOS functions. Reads from the screen, switches displays, searches directories, sets border color and writes directly to display memory. Implements pop-up windows.
IBM PC ☐ Introduced: 1984 ☐ Cost: $25

SYSTEM FACILITIES, INC.

☐ MPS (Microcomputer Programming System)
Develops micro applications. File I/O capabilities include B-Tree ISAM, and random and sequential access. String handling, program chaining and dynamic memory allocation for arrays and file buffers. Creates screen definition files and help files. In-line Assembly coding.
IBM PC ☐ 44-128 KB req. ☐ Copies sold: 35 since 1983 ☐ Cost: $149-$249

TEXAS INSTRUMENTS

☐ NaturalLink Technology Package
Produces NaturalLink natural language interfaces for MSDOS and PCDOS applications. Interface developed on TI Professional computer and linked with application code. Resulting application runs on any TI Professional. Optional run-time library allows application to run on IBM PC.
IBM PC ☐ 512 KB req. ☐ Cost: $1,500

THEOS SOFTWARE CORP.

☐ Assembler
Includes Theos 8 macro assembler and linkage editor. Accesses object file libraries, macros and files with pre-defined symbols for Theos 8 internal block structures.
IBM XT, AT ☐ Cost: $125

TLM, INC.

☐ Magic II
Includes windowing, recursive tasking, interactive relational data base and fourth-generation language functions. Supports LAN multi-user environment with file/record locking. Interactive or batch-oriented tasks. Performs 12 levels of subtasking with 9 available windows. Imports/Exports data to other systems. Supports Novell and IBM PC networks.
IBM PC ☐ 512 KB req.

TOM SOFTWARE, INC.

☐ Speed I Application Development and Data Base Management Utility
Generalized framework for system design. File volume recorded in file index. Design constraint of sector boundaries eliminated, sector boundaries automatically lapped when storing records. Hash access method. Sorts on seven ascending/descending levels, seven range checks.
IBM PC, XT ☐ 28 KB req. ☐ Copies sold: 4,200 since 1977 ☐ Cost: $800-$3,500

TOMINY, INC.

☐ Mach 1 Pad
Generation facility for application development. Includes DBMS with screen design, report generator, program generator and query capabilities. Provides Logic fourth-generation language. Operates in single-user environment.
IBM PC ☐ 128 KB req. ☐ Copies sold: 40 since 1986 ☐ Cost: $400

TOUCH TECHNOLOGIES, INC.

☐ INTOUCH
Application development tool. Includes novice language and extensions for programmers. Interrupts program execution, changes code and continues execution. Supports debugging including tracing program and recording execution times.
IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $1,000

TYLOG SYSTEMS, INC.

☐ dB WINDOW
dBASE II applications generator. Generates application down to documentation. Includes any number of data bases in an application, five indexes per data base, interactive queries, built-in report generator and password security system. Provides two data bases in one report and disk search for files.
IBM PC ☐ Copies sold: 1,500 since 1982 ☐ Cost: $249

UNICORN SYSTEMS CO.

☐ MicroCICS
Reviewed Dec 1985 p. 171.
Supports CICS testing, debugging and execution. Compatible with mainframe CICS.
IBM AT/370, XT/370 ☐ 768 KB req. ☐ Copies sold: 30 since 1985 ☐ Cost: $4,495

VERSATERM SYSTEMS, LTD.

☐ VITAL (Versaterm Intelligent Terminal Application Liberator)
Uses data dictionary, forms creation utility, build facility and run time modules to present screens, do syntactical edits and facilitate corrections. Schedules and executes non-resident pre/post-presentation transient processing applications in BASIC, Assembly or other. Communications protocols available.
IBM PC ☐ 256 KB req. ☐ Copies sold: 2,500 since 1982 ☐ Cost: $2,500

VM PERSONAL COMPUTING, INC.

☐ Relay Gold Customizer's Toolbox
Designs communications software. Creates customized screens, menus and interfaces that integrates applications and communications. Uses multiple level password protection, restricting callers to selected directories. Includes Relay GOLD.
IBM PC, XT ☐ 192 KB req. ☐ Copies sold: 150 since 1985 ☐ Cost: $500

WANG LABORATORIES, INC.

☐ PC Micro Focus LEVEL II COBOL
COBOL applications development. Components used in standalone/integrated mode. LEVEL II COBOL mainframe-level compiler enables Wang PC to compile/run ANSI'74 COBOL programs. ANIMATOR allows user to observe logical path of program execution. Includes screen generation utility.
IBM PC ☐ 256 KB req. ☐ Cost: $1,750

☐ Software Productivity Package
Consists of PC Multiplan, PC Word Processing, and PC Async Communications.
IBM PC ☐ Cost: $650

WEBCO, INC.

☐ Step-1 Application Generator
For small business. Uses English approach to systems operations with multiple choice menus, user-defined files and record names.
IBM PC, XT, AT ☐ 18 KB req. ☐ Copies sold: 30 since 1981 ☐ Cost: $2,500

COMMUNICATIONS— CONTROL SYSTEMS

ADP DATA SERVICES
(division of Automatic Data Processing, Inc.)

☐ DATAPATH
Links ADP's central computing systems. Screens information and downloads selected data to PC. Integrates data with Lotus 1-2-3 spreadsheet, graphics and management programs.
IBM PC, XT, AT ☐ 160-256 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $300

ADVANCED MICRO TECHNIQUES

☐ Micro-ez-LNK
Provides micros global communications with Western Union's Easylink. Dials, logs on, provides IDs of sending/receiving parties, and formats messages. Supports Electronic Mailbox, Telex I and II, International Telex, Telegram, Cablegram, Mailgram, computer letter, overseas mailgram and Infocom message types.
IBM PC ☐ 64 KB req. ☐ Copies sold: 2,100 since 1983 ☐ Cost: $95

AKRON SOFTWARE RESEARCH AND DEVELOPMENT

☐ DSPM (Dual Serial Port Manager)
Interrupt-driven serial port device driver. Buffers received/transmitted data. Implements communication protocols.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1986 ☐ Cost: $99

ALL EASY CORP.

☐ Datalink
Features a transmit-receive speed of 9600 baud computer to computer, or 1200 baud over telephone lines, plus one-keystroke session control. Provides automatic dial and retry, CRC-16 error checking and full interrupts.
IBM PC ☐ 64 KB req. ☐ Copies sold: 600 since 1981 ☐ Cost: $100-$300

AMERICAN BUSINESS COMPUTER

☐ Electronic Document Exchange

Allows companies doing business with each other to transmit documents including POs, quotes, material releases, invoices, advance ship notices and electronic mail via point-to-point, computer-to-computer or third-party network.

IBM PC ☐ Cost: $2,000

AMERICAN HIGH-TECH INDUSTRIES, INC.

☐ MCS-A/MCS-A Plus (Multifunctional Communications System-Asynchronous)

Controls transfer of data between an unattended central PC and other computers. Supports unlimited terminal emulation.

IBM PC ☐ 192 KB req. ☐ Copies sold: 250 since 1984 ☐ Cost: $295-$1,195

AMERICAN VIDEO TELECONFERENCING CORP.

☐ In-Synch

Provides PC conferencing capabilities. Allows PCs communicating via modem to run applications jointly. Snapshot features capture text or graphic screens to be sent to another user. Allows 2 users to concurrently annotate and highlight any screen. Slide presentation capability.

IBM PC ☐ 384 KB req. ☐ Cost: $150

ANALOG DEVICES, INC.

☐ MCComm-MDOS

Provides runtime data communication between PCDOS hosts and programmable measurement-and-control front ends. Error detection features include checksum, timeout and retry.

IBM PC, XT, AT

ARTISOFT, INC.

☐ Envoy

Allows micros to interact with mainframes as a smart terminal with data capture mode. Provides file transfer and is compatible with data networks, bulletin boards, and electronic mail systems. Enables user to copy, delete, rename, type and catalog files.

IBM PC ☐ 64 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $50

AST RESEARCH, INC.

SEE AD ON PAGES 161/172/173/174/175

☐ 5250/Async Dialup

Provides async dialup communications with 5251/11 emulation to IBM S/34, 36, 38, attached via twinax cable using AST-5251/11 or AST 5251/11 Plus. Hot-key between concurrent PCDOS and host sessions. Bidirectional file transfer.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $395

AT&T INFORMATION SYSTEMS

☐ Commkit Software AT&T PC Interface

Allows an IBM PC compatible running on MSDOS version 2 to utilize the resources of an AT&T 3B2 computer running UNIX System V.

IBM PC

☐ PC/PBX Connection Software

Converts PC into integrated voice/data workstation. Multi-tasking. Call forwarding, send all calls, priority calling and integration with Unified Messaging features. File transfer between PCs and between PCs and host computers. Async and optional sync terminal emulation. Use of System 75 and 85 modem pooling.

IBM PC ☐ Cost: $175-$700

☐ SoftCall

Provides storage, customized operating instructions and automatic dialing of up to 90 numbers. Adjusts modem to correct baud rate for each number. Log-in sequences with password protection, answer/file, call history logging and auto-redial. Voice/data provides split screen for 2-way data communications.

IBM PC, XT, Portable PC ☐ 128 KB req.

BATTERIES INCLUDED

☐ I*S Talk

Accesses on-line data bases, services such as Dow Jones and CompuServe, E-mail, bulletin boards and intra-computer conversations. Uploads/downloads to any device configuration. Provides 50,000 word real-time spelling checker, 3-levels of macros and memo functions.

IBM PC ☐ Cost: $80

BIT SOFTWARE, INC.

☐ BIT Com

Requires Hayes compatible modem. Accesses on-line services such as Dow Jones or Western Union's Easylink and dials up other PCs. Emulates most ASCII terminals. Sends and receives telex messages. Supports XON/XOFF protocol.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985

BLAISE COMPUTING, INC.

☐ Pascal Asynch Manager

Reviewed Aug 1985 p. 141.

Provides interrupt-driven and polling control over communications ports from within high-level language programs. Consists of toolkit of general routines which drive virtually any async device via RS232 ports, and includes high-level functions that help user develop commonly required communications applications.

IBM PC, XT, AT ☐ 24 KB req. ☐ Introduced: 1984 ☐ Cost: $175

BLAST/COMMUNICATIONS RESEARCH GROUP

☐ BLAST (Blocked Asynchronous Transmission)

File transfer and terminal emulation for micros, minis and mainframes. Includes SDLC/HDLC-like and a full-duplex, sliding-window protocol. Transfers files to and from Lotus 1-2-3, WordStar, dBASE II and VisiCalc. Auto-dials Easy Link and accesses public packet networks.

IBM PC ☐ 64 KB req. ☐ Copies sold: 15,000 since 1980 ☐ Cost: $250

BOS NATIONAL, INC.

☐ Communications (Asynchronous)

Async communications system. Provides multi-user capabilities. Lets file transfer operations take place in background partition of single terminal BOS/5 system, with foreground/background option, enabling interactive tasks while data transfer is in progress.

IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $200

BPI SYSTEMS, INC.

☐ Aura Communications

Allows access to data in other micros or public data bases. Features bi-directional async file transfer, advanced error checking and correction, unattended operations, activity log files and automatic redial/reanswer.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $150

BUTTONWARE, INC.

☐ PC-Dial

Exchanges any data with remote computers. Supports ASCII, X-Modem and X-Modem CRC protocols at speeds of up to 9600 baud. Works with auto-dial and manual dial modems. Multiple automatic log on files. DOS directories and commands from within program. Includes mini text editor and user-defined macros.

IBM PC ☐ 256 KB req. ☐ Copies sold: 12,500 since 1983 ☐ Cost: $60

CARTERFONE COMMUNICATIONS CORP.

(subsidiary of Cable & Wireless)

☐ PC/Reach

PC networking, file transfer, DEC VT-100 emulation, electronic mail, IBM 3278 emulation, data base communications and Telex access.

IBM PC ☐ Copies sold: 300 since 1985 ☐ Cost: $295

CAWTHON SCIENTIFIC GROUP

☐ Chip-Chat

Uploads/downloads files from other micros or mainframes. Also allows computer to act as an intelligent terminal when logging onto remote data bases and computer services. Sends/receives electronic mail.

IBM PC ☐ 128 KB req. ☐ Introduced: 1982 ☐ Cost: $195-$395

☐ Computer Telex Link

Designed for telex service including WU EasyLink, RCA, ITT and TRT. Sends and receives messages anywhere in the world. User may originate mailgrams, telegrams and international cables.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1982 ☐ Cost: $195-$895

☐ TXL (Telex Link)

Interfaces microcomputers to Telex and TWX networks. Edits, formats and sends telex messages. Incoming telex messages are received, displayed, stamped with date and time and written to disk storage.

IBM PC ☐ 128 KB req. ☐ Introduced: 1978 ☐ Cost: $295-$495

☐ W $ L (Wall $treet Link)

Used with Dow Jones information network. Dials local Tymnet or Telenet number, sends user password and allows access to Dow Jones information with prompts.

IBM PC ☐ 128 KB req. ☐ Introduced: 1982 ☐ Cost: $195-$395

CHANG LABORATORIES, INC.

☐ Link Module

Extracts data from a mainframe or timesharing service. Facilitates external file analysis for insertion to a MicroPlan worksheet.

IBM PC ☐ 64 KB req. ☐ Cost: $295

CIPHERLINK CORP.

☐ Any Databridge

Permits ongoing data exchange between incompatible applications regardless of data formats, hardware or OS. Requires no modifications. Includes calculations peripheral.

IBM PC ☐ 512 KB req. ☐ Copies sold: 16 since 1984 ☐ Cost: $10,000

CLM/SYSTEMS, INC.

☐ COGO-LINK

Transfers data to and from COGO and survey data recorders and other systems. General, survey program and CAD systems interfaces. Requires COGO.

IBM PC, XT, AT, RT ☐ 640 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $2,000

COMMUNICATION MACHINERY CORP.

☐ CASE Kernel (Common Application Service Elements)

Application layer protocol. MAP 2.1 compatible. Includes association active/passive establishment, data exchange, orderly release and user abort.

IBM PC, AT

☐ FTAM 1.0 (File Transfer and Management)

Application layer protocol. MAP 2.1 compatible. Includes file transfer kernel, read, write and file management functional units.

IBM PC, AT

☐ PLC Communications

Serial line protocols interface IBM PC to Allen-Bradley and Gould/Modicon programmable logic controllers. Drivers become resident in the IBM PC and allow any application on the PC to access the logic controllers. Provides BASIC interface subroutines.

IBM PC ☐ 15 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $175; $1,000 source code

COMMUNICATIONS SOLUTIONS, INC. (CSI)

☐ **Disoss/Talk**
Distributes documents to one or more recipients. Retrieves documents sent by other users. Searches libraries to retrieve selected files. Works with Access/DIA to communicate with IBM's DISOSS. Can be used as sound programming base to build user-customized application programs.
IBM PC ☐ Cost: $10,000

COMPUTER SYSTEMS CONSULTANTS

☐ **CModem Telecommunications Program**
Supports dumb-terminal mode, upload and download in non-protocol mode and Christensen mode to allow communication over telecommunications facilities.
IBM PC ☐ 64 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $50

COMPUTERLINE

☐ **CS-Talk**
Transfers data files between Plantrac/CS and other systems.
IBM PC, XT, AT ☐ Cost: $750

☐ **Opentrac**
Transfers data files between Plantrac and other systems.
IBM PC, XT, AT ☐ Cost: $750

CONWAY DATA, INC.

☐ **Geo-Econ NetsUser Communications**
Permits log on to Conway Data's Site Net. Allows user to download files. Message capability. Available as add-on to packages in Geo-Econ Software Series.
IBM PC ☐ 256 KB req. ☐ Cost: $150

CORPORATE MICROSYSTEMS, INC.

☐ **MLINK**
General-purpose, async communications system for microcomputers, minicomputers and mainframes. Facilitates data transfer among various computers and OSs. Allows micros or minis to act as remote terminal when connected with another computer.
IBM PC ☐ 100 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $195-$500

CORVUS SYSTEMS, INC.

☐ **Omni Share**
Allows IBM XT to share disk space with other PCs or compatibles. Requires transporter card and wire.
IBM XT ☐ Cost: $795 per connection

COSI

☐ **Tango**
Connects IBM and AT&T PCs running DOS with UNIX computers. Executes MSDOS commands/programs under UNIX hosts. Supports file transfer. Provides terminal emulation of DEC, IBM and Tektronix terminals selectable from UNIX host.
IBM PC ☐ 192 KB req. ☐ Introduced: 1984 ☐ Cost: $195-$295

COSMOS, INC.

☐ **R/COMM**
Interfaces microcomputers, running REVELATION, with mainframes and minis via RS-232C interfaces. Includes code that runs Prime computers.
IBM PC ☐ 320 KB req. ☐ Introduced: 1984 ☐ Cost: $500

DATA GENERAL CORP.

☐ **CEO Connection**
Allows user-transparent, bidirectional file and document transfer and conversion between DG DASHER/One intelligent workstations, IBM PC, XT and AT and DG CEO (Comprehensive Electronic Office) software.
IBM PC, XT, AT

☐ **PC Liaison**
Enables users to transfer files between DG's DG/One and IBM PCs or XTs.
IBM PC, XT ☐ 192 KB req.

DATAMAX CORP.

☐ **BC-Connect**
Allows IBM PCs and compatibles to interconnect with BLIS/COBOL based minicomputers. Terminal emulation and file transfer capabilities.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $750

DATAVIZ, INC.

☐ **Maclink**
Communications package. Moves files from IBM PC to Apple Macintosh.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2,000 since 1985 ☐ Cost: $125

DATEM, LTD.

☐ **dDCM 810; dDCM 810/R; dDCM 810/Q**
Provides development environment to combine MSDOS, iRMX86 and PDP-11/LSI-11 with industrial process control/data acquisition bus. Works with Datem dDCM 800 PC interface module. Includes message packet management, named device interfaces, message protocol support and user-defined message flow control. Manipulates RAM resident dDCM 810 operating environment.
IBM PC ☐ 64 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $499-$750

DESERT TECHNOLOGIES
(division of Desert Teksystems Corp.)

☐ **Plexcomm**
Allows PC to concurrently support 10 RS-232 ports at 110 to 9600 baud speed. Runs several applications on single PC simultaneously. Uses communication logics language to control RS-232 port, modems, file transfers, ASCII or EBCDIC data transmissions and special character handling.
IBM PC, XT, AT ☐ Introduced: 1986 ☐ Cost: $995

DIALOG INFORMATION SERVICES, INC.
(subsidiary of Lockheed Corp.)

☐ **Dialoglink**
Contains communications and accounts manager to log amount of time spent connected on-line to Dialog Information Services. User creates and refines search strategies off-line, transmitting research request when dialing up system. Prints information received to disk or printer. Dials other information services.
IBM PC ☐ Cost: $125

DILITHIUM PRESS

☐ **PC to Mac and Back**
Exchanges information between IBM PC and Apple Macintosh, two IBMs, two Macintoshes, or computers with RS232 serial port. Accesses and saves data from CompuServe, The Source and Dow Jones.
IBM PC, XT, PCjr ☐ 128 KB req.

DIRECT*AID, INC.

☐ **Direct Connect**
Reviewed Sep 1984 p. 46.
Captures data to disk or printer; sends files to other computers. Includes XMODEM protocol. Features 25 help screens, screen paging, 9,600 baud throughput, programmable function keys, instant notification of communication errors and display and communication parameters.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $95

DPR SOFTWARE, INC.

☐ **Autotalk**
Allows unattended operation, multiple remote calls and multiple file transfers. Provides password protection.
IBM PC, XT, AT ☐ Cost: $199

DYNACOMP, INC.

☐ **PAB-COM Communications Program**
Allows IBM PC to communicate with another IBM PC, The Source or Dow Jones News Retrieval Service. Features manual or automatic dialing with or without automatic redial or delayed dialing and modes of operation for file transmission, reception or saving.
IBM PC ☐ 64 KB req. ☐ Cost: $40

DYNAMIC MICROPROCESSOR ASSOCIATES

☐ **ASCOM IV**
Allows micros to communicate with mainframes, minis and other micros and logon to timesharing systems. Features interactive, menu-driven and batch operations. Supports auto-answer and auto-dial modems. Compatible with Novell network and Xmodem protocol.
IBM PC ☐ 196 KB req. ☐ Copies sold: 75,000 since 1979 ☐ Cost: $195

☐ **pcANYWHERE**
Allows terminal/computer with modem to remotely dial up and run PC. Accesses printers, peripherals and data on floppy or hard disk. Possesses keyboard control over PC functions and duplicates PC's screen.
IBM PC, XT, AT ☐ 196 KB req. ☐ Copies sold: 2,500 since 1986 ☐ Cost: $95

EASTMAN COMMUNICATIONS
(a Kodak Co.)

☐ **SYNCRA**
Links 2 or more computers for data transmission.
IBM PC ☐ 64 KB req. ☐ Cost: $695-$995

ELECTRONIC DATA SYSTEMS CORP. (EDS)
Technical Products Division

☐ **Communicator/Text Editor**
Forms intelligent terminal. Communicates with mainframes, minis and micros. Uploads/downloads, edits/creates text files and programs. Auto-dial and auto-log-on commands for THE SOURCE, Dow Jones, CompuServe and IBM's TSO and VM.
IBM PC ☐ 64 KB req. ☐ Cost: $99-$120

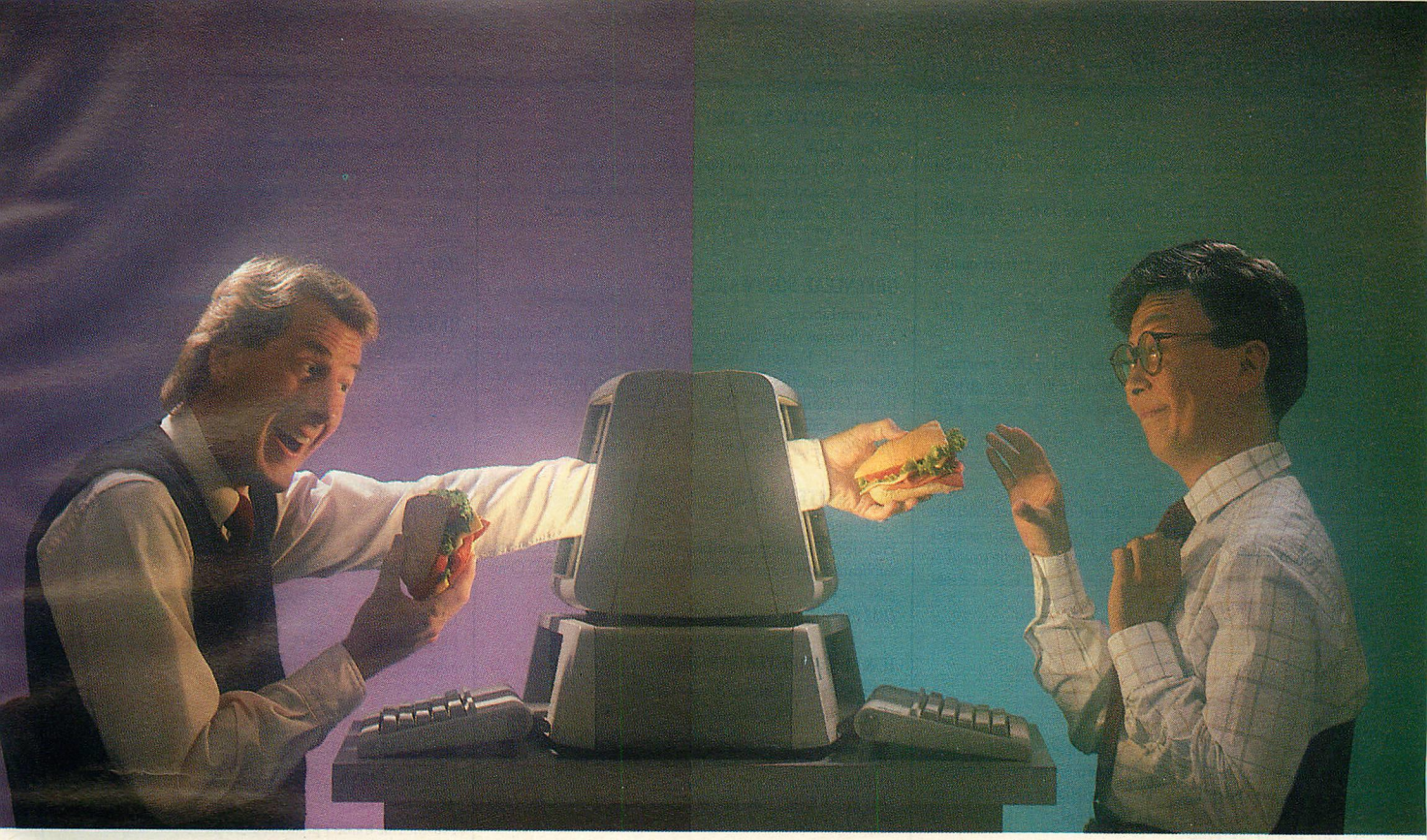
FRONTIER TECHNOLOGIES CORP.

☐ **Async Driver**
Allows async communications. Allows communications at 300, 1200 and 9,600 baud rates.
IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $95-$5,000

☐ **Com 1 Com 2 Driver**
Converts IBM BIOS calls to work with AdCom 2-M or AdCom 2-I communications controllers. Interactive mode. Major modules/subsystems transmit, receive and initialize. Features include baud rate up to 9,600 and hardware interrupt driven.
IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $95-$5,000

☐ **Compac Z**
Uses async communications through IBM-standard RS-232 interface of Frontier's AdCom 2 series for file transfer and terminal emulation. Reporting capability provides download from terminal screen to printer.
IBM PC, XT ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ **Sync Driver**
Develops application programs for sync operation. Modules include initialize, transmit, receive and status.
IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $95-$5,000



Give on-site support in 15 cities. Then break for lunch.

Breakfast in Newark. Lunch in Boston. Antacid in Manhattan.

PC support and training people have always assumed it came with the territory. Because the only way to get the job done, it seemed, was to plop down next to the user and solve his problems one-on-one.



That's why we invented Carbon Copy. The ultimate remote control program for IBM PCs, XTs, ATs and compatibles. It lets you work one-on-one anywhere in the world from the comfort of your own office.

Carbon Copy lets you use your local PC to control and monitor any remote PC over an asynchronous communications link. Once you're connected, you can run the program of your choice.

Use your PC to monitor your remote users. This can be a tremendous timesaver for corporate support departments or product developers. If a PC user calls with a software problem, Carbon Copy lets you see what the problem is immediately. So you can solve it on-line. Interactively.

But that's just the beginning. You can also use Carbon Copy to diagnose remote hardware malfunctions. To install and demonstrate software at remote sites without leaving your desk. To train your remote users interactively. To access remotely-located local area networks. To transfer files between PCs at very high speeds, with data compression and encryption.

When Carbon Copy links two PCs, their screens, keyboards, printers and disks act as one. A keystroke entered on one simultaneously appears on the other.

Carbon Copy features include remote printer support, password protection and dial-back security, log file with complete audit trail, support of color and interactive graphics, the ability to switch between data and voice modes, and a chat window for typed conversations.

And as you'd expect, Carbon Copy is so user friendly that there are no complex, technical terms to learn. All commands are either simple menu-driven options or familiar PC-DOS type commands.

Carbon Copy is such a simple solution that it is already being used by training and support departments at most major corporations, computer dealers, and consultants.

See your local dealer and try Carbon Copy for yourself.

Your brain will love it. Your stomach will love it. Simultaneously.

Carbon Copy
The remote possibility.

Meridian Technology

1101 Dove Street, Suite 120
Newport Beach, CA 92660 (714) 476-2224

CIRCLE NO. 228 ON READER SERVICE CARD

☐ **TCP/IP**
Implements transmission control protocol and internet protocol. Provides interactive/on-line mode. Operates with AdCom 2-I Communications Controller.
IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $695

☐ **Technician Mode Diagnostic**
Allows fault isolation for trouble shooting. Reports functionality of AdCom 2-M Controller (go/no go test).
IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $195

☐ **User Mode Diagnostics**
Allows diagnostic on power to be embedded in DOS programs. Reports functionality of ADCom 2-M controller (go/no go test).
IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $195

GAMMALINK

☐ **GammaFax**
Enables GammaLink 9,600-bps GammaComm modem board to communicate with CCITT Group III digital facsimile machines over dial-up lines worldwide. Scanned images can be stored as disk files, ASCII files or graphics generated on PC can be sent to remote facsimile machines.
IBM PC, XT, AT ☐ Cost: $2,490

GANDALF DATA, INC.
(subsidiary of Gandalf Technologies, Inc.)

☐ **Switchmux 2000**
Supports async and BSC protocols. Multiplexes data from variety of SNA terminals and X.25 PADs or other bit-sync protocols. Supports ring and string configurations. HDLC and SDLC compatible. Supports speeds up to 19,200 bps.
IBM PC ☐ Cost: $125

GATEWAY COMMUNICATIONS, INC.

☐ **G/SNA PCcom**
Provides SDLC PC-to-PC communications and file transfer. Offers communications between remote PCs and between remote PC and LAN-connected PC without mainframe. Performs remote and local PCDOS syntax commands and interactive message exchange between PCs. Handles bulk data transfer.
IBM PC, XT, AT ☐ 192 KB req.

GATEWAY INFORMATION TECHNOLOGIES, INC.

☐ **Retrieval Series-Gateway Electronic News Search**
Captures, monitors and retrieves incoming Real Time newswire stories. Multi-user, multi-tasking capabilities. Allows remote dial-in.
IBM PC, XT, AT ☐ 1000 KB req.

GENERAL ELECTRIC INFORMATION SERVICES CO. (GEISCO)
(subsidiary of General Electric Co.)

☐ **Connector**
Exchanges data between spreadsheets and data bases on MARK III Service.
IBM PC ☐ Cost: $100 per end user

☐ **FTU (File Transfer Utility)**
Transmits binary and ASCII data between PCs and MARK III Service over async communication lines.
IBM PC ☐ Cost: $100

GLENCO ENGINEERING, INC.

☐ **Private Talk**
Communications package with integrated feature of security using DES. Remote control features implemented to allow user to take full control of remote PC.
IBM PC ☐ 64 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $65

GOOD SOFTWARE CORP.

☐ **Let's TALK**
Moves ASCII data and text files between two computers. Transfers files to and from unattended computer. Chooses transfer speed and renames files. Converses through keyboard.
IBM PC, XT ☐ 64 KB req. ☐ Cost: $179

GREENLEAF SOFTWARE, INC.

☐ **CommLibrary**
Asynchronous communications library for C. Runs 16 ports at 9600 baud. Features Xon/Xoff and Xmodem protocols. Includes Hayes series modem controls. Supports Digiboard Com4-II and Com8-II boards, Quadram QuadPort-AT 5 port boards and other multiple port boards.
IBM PC, AT ☐ Cost: $185

GRID SYSTEM CORP.

☐ **Manager**
Provides communications with GRiD Server and GRiD Central, duplicates, moves and erases files, and sets time on GRiD Compass clock.
IBM PC

H & A COMPUTER SYSTEMS

☐ **PCAM PC to Series/1 Access Method**
Handles file transfer and record access between an IBM PC, AT or XT and IBM Series 1. Transfers via telephone link or local attachment. Provides utility to copy data sets for saving files, passing data and retrieving data files.
IBM PC, XT, AT ☐ 34 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $1,050

HAWKEYE GRAFIX

☐ **BBS (Business Board System)**
Provides dial-up information/data entry center via modem for configured text menus and data base files. Distributes/collects information via menu selections. Includes data base utility for data entry forms creation, report generation and file management.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1986 ☐ Cost: $189-$399

☐ **COMMX/PC**
Supports multi-terminal emulation, multi-protocol file transfers, unattended control macros and multi-site dial/parameter directory. Emulates VT100/102/52, IBM3101, WYSE50, TVI950, HP2624/45, ADM 3-A/11 and ADDS/R60. Terminal color controls and status line. Supports XON/XOFF, KERMIT, XMODEM and COMMX micro-mainframe.
IBM PC, XT, AT ☐ 48 KB req. ☐ Copies sold: 50,000 since 1978 ☐ Cost: $99

☐ **CONSOLX/PC**
Provides remote computer operation for electronic mail and bulletin board systems or use of office computer from home. Includes password option, 300/1200/2400 baud access, test mode and program startup for caller. Allows batch execution after caller logoff.
IBM PC, XT, AT ☐ 32 KB req. ☐ Copies sold: 20,000 since 1978 ☐ Cost: $69

HAYES MICROCOMPUTER PRODUCTS, INC.
SEE AD ON PAGE 143

☐ **Smartcom II**
Reviewed Nov 1984 p. 151.
Manages data transfer. Stored communications parameters include telephone number, baud rate, data format, confidential mode and keyboard definitions. Allows network PCs to share modems and async communications. Includes key autopilot/startup sequences and received file naming. Supports hierarchical file system.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1984 ☐ Cost: $599

HEADLANDS COMMUNICATIONS CORP.

☐ **PC-TALK III**
Uploads and downloads files. Allows selective character stripping/converting and stores pacing instructions for each entry.
IBM PC ☐ 64 KB req. ☐ Cost: $35

HENSON SYSTEMS, INC.

☐ **SYNCX-Network Workstation 2780**
Provides menu-directed bisync 2780 communications. Works on SIO, 8251A, 2661 and IBM ACA or look-alike chips. Controls word length, parity, printer echo and implementation-specific control.
IBM PC ☐ Copies sold: 5 since 1982 ☐ Cost: $200

HEWLETT-PACKARD CO.

☐ **AdvanceLink for the IBM PC**
Sends and receives files beteen IBM PC data bases and HP Touchscreen, HP 3000 minicomputer or remote data bases.
IBM PC ☐ Cost: $295

☐ **Link**
Provides links among IBM and compatible PCs and HP Portable Plus.
IBM PC

☐ **Monitor/IBM PC**
Works with HP's AdvanceLink on HP Touchscreen PC for ASCII or binary file transfer between 2 systems. Transmits files via full-duplex modems and telephone lines or via an HP 13242H cable.
IBM PC ☐ 128 KB req. ☐ Cost: $95

HILGRAEVE, INC.

☐ **HyperACCESS**
Async communications. Links PC to remote system or utility. Provides file transfer protocols and auto-execute language. Host mode allows remote users to call in, logon and run micro. May run external software from within HyperACCESS while on-line.
IBM PC ☐ 192 KB req. ☐ Copies sold: 5,000 since 1981 ☐ Cost: $149

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ **Access Manager**
IBM no. 6871-461.
IBM PC, XT, 3270-PC ☐ Cost: $400

☐ **APPC/PC (Advanced Program-to-Program Communication for the IBM PC)**
IBM no. 6467-038. Supports SNA application programming interface logical unit (LU) type 6.2 and physical unit (PU) type 2.1. Allows program-to-program communication over IBM Token-Ring Network and SDLC communication links.
IBM PC, XT, AT, Portable PC ☐ 185 KB req. ☐ Cost: $150

☐ **Asynchronous Communications Support**
Reviewed Aug 1984 p. 155.
IBM no. 6024-032.
IBM PC ☐ Cost: $60

☐ **Cluster Program**
IBM no. 6024-107, 182. Enables IBM PCs usable in clustered multi-user configuration. Users share fixed disk, send/receive data, transfer files and control remote access for operators. Sets up no access, read/write only or read/write security keys.
IBM PC, XT, Portable PC, PCjr ☐ Cost: $400 (6024-182)

☐ **Display Manager**
IBM no. 6871-464.
IBM PC, XT, 3270-PC ☐ Cost: $500

☐ **DisplayComm Binary Synchronous Communications**
IBM no. 6024-187. Provides batch data transmission among IBM PCs. Supports IBM Displaywriter, 6670 Information Distributor, 5520 Administrative System, Office System 6 and IBM PCs. Supports multiple data formats.
IBM PC, XT, AT, Portable PC ☐ Cost: $375

☐ **DMS/CMS XT/370**
IBM no. 5748-XXB/01.
IBM XT/370 ☐ Cost: $144

☐ **PC Support/38**
IBM no. 5714-PC1. Provides information exchange and resource sharing between an IBM PC and an IBM S/38. Directs IBM PC print output to an S/38 Printer. Permits access to a maximum of eight virtual disks on the S/38 per PC user.
IBM PC, XT, AT, Portable PC ☐ 384 KB req. ☐ Cost: $995

☐ **Personal Decision Series - Attachment/36 and Attachment/36 Edition**
IBM no. 5727-BRK; 6316-972. Minicomputer-to-PC link. Exchanges tasks and information between host system/36 and IBM PCs.
IBM PC, XT, Portable PC ☐ 256 KB req. ☐ Cost: $150

☐ **Series/1-PC Connect**
IBM no. 5719-CN1. Gives IBM PC access to Series 1 peripherals. Features IBM PC Network Program server function extensions, IBM PC disk emulation/print services, LAN independent services and interprogram communications.
IBM PC, XT, AT ☐ Cost: $400

☐ **4700 Personal Computer Application Services**
IBM no. 6934-406. Allows IBM PC to communicate with IBM 4700 Finance Communication System (FCS) Controller.
IBM PC, XT ☐ Cost: $300

INFORMATION MANAGEMENT CONSULTANTS & ASSOCIATES, INC.

☐ **Remote Data Retrieval System**
Retrieves data from portable 1,200 baud batch terminals, and stores formatted data on IBM PC, XT disk.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 1 since 1983 ☐ Cost: $1,500

THE INFORMATION PEOPLE

☐ **INFOSHARE II Universal Communications Package**
Offers information exchange between micros running CP/M, MP/M or MSDOS. Provides security and terminal emulation/file transfer capabilities.
IBM PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $149-$250

INFORMATION TECHNOLOGIES, INC.

SEE AD ON PAGE 271

☐ **LinkUp 3270 FTS and FTS 1**
IBM host file transfer that supports TSO, CICS and CMS. Runs as standalone. Does not require host.
IBM PC ☐ Cost: $135

INFOSERVICES

(division of SCS/Compute)

☐ **Co-Partner**
Oversees file transfers between Prime and any micro system using PC-Partner. Provides error-correcting, bi-directional, wildcard and pathname file transfer. Protects file overwrite as query or rename.
IBM PC, XT, AT ☐ Copies sold: 200 since 1986 ☐ Cost: $995

☐ **INFOCOMM**
Transfers ASCII and binary files bi-directionally. Provides conversational mode to convert microprocessor into dumb terminal for routine interactive processing.
IBM PC ☐ 128 KB req. ☐ Copies sold: 3,000 since 1982 ☐ Cost: $195

INSPIRATION SYSTEMS, INC.

☐ **Prevail - Telecommunications**
Async terminal emulation. Transfers files to/from remote computers. Accesses remote data bases such as Dow Jones or The Source while remaining within Prevail User Interface. Interfaces with other Prevail modules.
IBM PC ☐ 2,000 KB req. ☐ Copies sold: 100 since 1984

INTEL CORP.

☐ **iDCX 96 Distributed Control Executive**
Develops/implements MCS-96 microcontroller designs in real-time applications. Manages/schedules tasks. Handles interrupts. Communicates via messages between tasks. Includes task priority scheme, task-state definitions and pre-emption facility. Supports PL/M 96 and register interfaces.
IBM XT, AT ☐ Cost: $750

INTELLUTION, INC.

☐ **ICM-4 (Intelligent Communications Module)**
Distributed communications support via 4 dedicated serial RS-232C channels and on-board 8088 microprocessor. Includes protocol handling, error detection, message timing and retry handling.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $1,595

INTERACTIVE SYSTEMS CORP. (CA)

☐ **Connect**
Provides transparent connection between user's terminal and port of another computer device.
IBM RT, AT/AIX, PC/IX

☐ **FTP**
Supports local-to-remote and remote-to-local file transfer. Lists remote directory. Deletes remote file. Changes mode of remote file. Supports dedicated and dial-up connections.
IBM RT, AT/AIX, PC/IX

☐ **ICCS (Interactive Corporate Communications System)**
Builds networks of UNIX computers and PCs. Includes office systems and software development applications. Supports mail/messaging, remote systems link, full-screen editor, document formatting, multi-terminal emulators and file transfer.
IBM RT, AT/AIX, PC/IX

☐ **INRemote**
User can submit jobs to and receive output from hosts supporting RJE workstations. Supports multiple hosts. Sends arrival notification for received output via electronic mail. Requires Interactive's IN/card RJE.
IBM RT, AT/AIX, PC/IX

☐ **INterm Host Command Set**
Executes PC applications under host control. Provides file transfers with error correction. Allows files to be copied to host for storage and copied back to PC for processing. User can store sequence of file transfer and program commands in script files.
IBM PC, XT, AT

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INTERACTIVE TECHNOLOGY CORP.

☐ I.T. COMM
Async communications subroutine library.
IBM PC, XT, AT ☐ 256 KB req.

JONES FUTUREX, INC.

☐ Clear SNA
Supports SDLC protocol and SNA protocols used by IBM 3274 and 3276 control units. Provides 3274 Control Unit, 3278/3279 Display Station, 3287 Printer Model, async terminal support, multiple session screen display, screen to disk copy, print file to disk and disk to host capabilities.
IBM PC, XT, AT

☐ Secure SNA
Provides functionality of Clear SNA. Adds encrypt/decrypt option, IBM Feature Number 3680. Encrypt/decrypt is transparent to user.
IBM PC, XT, AT

KEA SYSTEMS, LTD.

☐ ZSTEMpc-4014
Transfers files to and from host. Communicates with The Source, Compuserve and Dow Jones. Emulates a Tektronix 4014 terminal.
IBM PC, XT, AT, PCjr

KENSINGTON MICROWARE, LTD.

☐ Easy Link Instant Mail Manager
Links PC and Western Union Easylink message service. Integrates word processing, automatic message management, address book management and communications.
IBM PC, XT, XT/370, Portable PC, AT ☐ 256 KB req. ☐ Copies sold: 15,000 since 1985 ☐ Cost: $150

KRONOS, INC.

☐ File Transfer
Creates a simple command file that addresses a Timekeeper, takes reports and stores them on disks. Uses KRONOS Error-Protected Protocol. Functions with KRONOS System 35 and System 70 Timekeepers.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $540

☐ High-Level Communications Interface
Implements KRONOS error-protected protocol. Allows software designer to focus on application programming. Interfaces with KRONOS System 35 and Sytem 70 Timekeepers.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $360

K-TALK COMMUNICATIONS

☐ K-TALK
Includes wild card transfer of all types of files with error checking and automatic correction. Permits user to determine and set number of data bits, stop bits and parity. Features Xmodem compatibility, automatic dialing and login/password support.
IBM PC ☐ 44 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $149

☐ K-TALK-ACCESS
Allows access to LAN with autoanswer, caller to send mail to host micro, user to read/send all types of files, and caller to run other programs.
IBM PC ☐ 32 KB req. ☐ Introduced: 1983 ☐ Cost: $150

LAGUNA LABORATORIES, INC.

☐ Decisionlink 5251/11
Bidirectional file transfer between IBM PCs and S/34, 36, 38.
IBM PC, XT, AT ☐ Introduced: 1984 ☐ Cost: $995

LASALLE MICRO

☐ BackComm
Command language. Built-in EMAIL system. Schedules calls for anytime with repeat. Operates in background while running other programs. Stores 34 million phone numbers. Built-in disk utilities, encryption and compression.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1986 ☐ Cost: $95

LATTICE, INC.

SEE AD ON PAGE 279

☐ SideTalk
Retrieves electronic mail. Schedules data transfers. Sets up bulletin board system. Allows users' telecommunications to be managed independently while system performs other tasks. Includes SCL (Sidetalk Communications Language) to modify/create customized communications processes. SCL controls multi-tasking. Memory-resident or standalone.
IBM PC ☐ 128 KB req. ☐ Cost: $120

LINDBERGH SYSTEMS, INC.

☐ OMNITERM 2
Reviewed Sep 1984 p. 46.
File transfer and terminal emulation facility. Disk-to-disk file transfer. Translation tables for all 256 codes for each I/O device. Transmit editor for on-line editing of single lines. Xmodem error checking, print screen. Handles unattended operation and password security.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $130

LINKWARE CORP.

☐ VAX: Information Server
Link between PC and VAX minicomputers. Up/down loads text and data files. Provides front-end processor capability.
IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $12,000

MARC ANALYSIS RESEARCH CORP.

☐ LinkMarc
Transfers word processing documents between PCs and minicomputers when used with WordMARC. Allows PC to use minicomputer as print server or file server in centralized environment and perform distributed file functions.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $425

MATHEMATICAL APPLICATIONS GROUP, INC.

☐ Slidelink
IBM PC

MBP SOFTWARE AND SYSTEMS TECHNOLOGY, INC.

SEE AD ON PAGE 293

☐ SNA DIA Communications Software
Includes LU6.2 functionality. Exists as application on top of LU6.2 protocols. User-definable screen interface. Provides document exchange and electronic mail capabilities throughout DISOSS networks. Accesses IBM's Document Library Services.
IBM PC ☐ 128 KB req.

MEAD DATA CENTRAL, INC.

(subsidiary of The Mead Corp.)

☐ NEXIS
Accesses NEXIS news retrieval which contains text from 160 newspapers, wire services, newsletters, professional and trade journals, SEC filings, brokerage and investment banking and OSHA reports. Access to NEXIS provides access to all other Mead Data Central services except LEXIS.
IBM PC, XT, AT, 3270-PC, Portable PC, PCjr ☐ 128-256 KB req.

MEGAWEST SYSTEMS, INC.

☐ MegaNet
Accommodates 110 to 9,600 baud lines over standard RS-232C interface. Uses check characters, retransmits data and operates in bi-directional mode.
IBM PC, XT ☐ 32 KB req. ☐ Copies sold: 75 since 1979 ☐ Cost: $2,000 per 2 CPUs

MERIDIAN TECHNOLOGY, INC.

SEE AD ON PAGE 247

☐ Carbon Copy
Reviewed Apr 1986 p. 84.
Allows remote execution of any PC software from another PC located any place in world. Remote data entry, teleconferencing, and remote system support.
IBM PC, XT, AT ☐ 25 KB req. ☐ Copies sold: 75,000 since 1984 ☐ Cost: $195

M/H GROUP

☐ BlueLink
Disk-to-disk document conversion between IBM DCA Revisable Format and Wang PC Advanced Word Processing. Standard IBM utilities and communication products provide the link between DCA documents and DisplayWrite, DisplayWriter, 5520, System 36 and DISOSS.
IBM PC ☐ Cost: $495

☐ PcCom
Bisync PC to PC communication of any MSDOS file.
IBM PC

☐ TextCom
Transfers documents from Multimate to Wang and from Wang to Multimate. Provides error checking. Sends documents at 1,-200, 2,400 or 4,800 baud. Transfers format settings, tabs, line wrapping, center codes, page ends, underscoring, bolding, superscripts and subscripts.
IBM PC ☐ Cost: $749

☐ W-Link
Disk-to-disk document conversion between Wang Word Processing and Multimate, DisplayWrite I, II, III, WordPerfect and WordStar.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $395

MICHTRON, INC.

☐ MI TERM
Accesses bulletin boards, Compuserve and The Source. Transfers files direct from disk with any remote system. Supports Xmodem and DFT protocols. Sends binary files as electronic mail messages with 2 levels of checksum, extraneous character trapping and embedded comments.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $80

MICRO DATA BASE SYSTEMS, INC.

☐ K-Comm
Communicates with computers at remote locations. Transfers or exchanges data during knowledge processing or within any program from computers at different locations.
IBM PC ☐ 320 KB req. ☐ Introduced: 1985 ☐ Cost: $225-$850

☐ LAN KnowledgeMan/2
Relational data management, third-generation spreadsheet, ad hoc query language, statistical analysis, math functions and calculations, screen I/O management, passwords, read/write controls, encryption security and structured programming language.
IBM PC ☐ 320 KB req. ☐ Introduced: 1984 ☐ Cost: $1,795-$3,325

MICRO DIMENSIONS

☐ PC-COMM
Async communications. Handles up to 9,600 baud. Supports manual/autodial modems and XMODEM and XON/OFF protocols. Stores 26 user-defined frequently called remote locations.
IBM PC ☐ Cost: $50

MICRO-INTEGRATION CORP.

IE Systems Divisions

☐ BIS-HASP
Provides translation, packing/unpacking, and data stream management for RJE multi-leaving HASP, POWER, RES, or JES point-to-point workstation. Supports console commands, assign/unassign device at will, diagnostic tools, on-line statistics, configuration program and 10 international keyboards.
IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1982 ☐ Cost: $695

☐ Micro-SNA/5250
Connects PC to IBM S/3X. Supports up to 9 user-configurable display and printer logical units. Runs S/3X tasks in one/all logical units concurrently. Provides application program interface. Emulates Model 5224, 5225 and 5256 printers.
IBM PC ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $695

MICROCOM, INC.

☐ Era 2
Transfers files over phone lines, accesses over 175 on-line data bases, conducts meetings, handles electronic mail, sets and stores communication parameters, provides file maintenance commands while connected to another computer and permits unattended data transmission.
IBM PC, XT, PCjr ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $499

☐ MNP (Microcom Networking Protocol)
Allows data communication between similar and dissimilar PCs, networks or mainframes. Allows user to incorporate changes into the basic protocol structure through five layer architecture.
IBM PC, PCjr ☐ Cost: $100

MICROSTAR SOFTWARE, LTD.

☐ MVDI-Communications
NAPLPS-ASCII communications package for accessing videotex and text-only data bases. Automatic dialing facility. Supports different color and monochrome graphics cards.
IBM PC ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $75-$100

MICROSTUF, INC.

☐ Remote
Reviewed Apr 1986 p. 84.
Allows operation of PC and software from any location via terminal or PC. Contains electronic mail, supports Crosstalk and Xmodem file transfers. Individual password protection. Dial-up or direct connection supports up to 9,600 bps, autobaud up to 2,400 bps.
IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $195 (req. on host only)

☐ Transporter
Accommodates unattended data transfer. User creates a task list to send files to or request files from any location, at any time, using non-technical commands.
IBM PC, XT, AT ☐ 96 KB req. ☐ Cost: $295 (includes Crosstalk XVI)

MICROTEC RESEARCH, INC.

SEE AD ON PAGE 304

☐ Communications Utilities
Enables object modules to be downloaded in ASCII or binary format from host to in-circuit emulator. Includes symbolic debugging.
IBM PC

MILLER MICROCOMPUTER SERVICES

☐ Forthcom
Permits RS-232C and telephone communications activities up to 2,400 baud (9,600 baud if direct wired). Runs as terminal on large computers. Spools input to printer. Provides data compression and error checking.
IBM PC, XT ☐ 64 KB req. ☐ Cost: $50

MODCOMP

☐ PC Workstation Interconnect
IBM PC ☐ Cost: $500

MOORE PRODUCTS CO.

☐ Model 321 Expansion Satellite Configuration
Creates data base used for communications between local instrument link and high-level link. Provides data entry, editing and storage. Selects data transferred into LIL/HLL channels. Creates tag name data in origin library. Assigns configuration file ID.
IBM PC

☐ Model 352 SDLC Configuration
Allows entry, editing and storage of configurations. Provides commands for editing, printing, filing and transferring data. Stores configuration information including loop name, file name, author and descriptive comments. User can load, save, delete, upload and download configurations.
IBM PC

M.V. AND ASSOCIATES

☐ EXXTRACT Information Retrieval
Data transfer utility. Accesses field-level mainframe data for downloading, uploading, unattended remote print, and virtual floppy storage on host. Host controls security and data access. Provides user interface and communicates with host to effect data transfers.
IBM PC ☐ 50 KB req. ☐ Copies sold: 35 since 1984 ☐ Cost: $995

MYCROFT LABS, INC.

☐ Maxi-Mite
Multi-protocol async functions including auto-dialing, auto redialing, auto-answer, auto-log on, transfer of binary and text files, ten programmable function keys, supporting mainframe variables and 17 OS commands and carrying Xmodem/batch/CRC/Xtalk/Scom protocols and TWX. Ymodem protocol.
IBM PC ☐ 64 KB req. ☐ Copies sold: 100,000 since 1985 ☐ Cost: $150

☐ Micro-Mite
Originates calls and transfers readable text. Includes preconfigured log ons for on-line data bases.
IBM PC ☐ 64 KB req. ☐ Copies sold: 2,000 since 1986 ☐ Cost: $50

☐ Mini-Mite
Includes standard sending and receiving, password protection, preconfigured and log ons, menu- and command-driven, Xmodem/batch, review buffer and printer toggle.
IBM PC ☐ 64 KB req. ☐ Copies sold: 10,000 since 1986 ☐ Cost: $95

☐ Verti-Mite
Designed for individual industries containing key telephone numbers to association, company, government, public or private on-line data bases. Search facility.
IBM PC ☐ 64 KB req.

NETWORK SOFTWARE ASSOCIATES, INC.

☐ AdaptSNA APPC
Provides Advanced Program-to-Program Communications (APPC) functions for implementing LU 6.2 communications applications for PC. Supports peer-to-peer and host-based communications.
IBM PC, XT, AT

NIGHTOWL SOFTWARE, INC.

☐ MEX-PC (Modem EXecutive PC)
Features auto-dial and redial, alternate long distance dialing, list dialing with automatic baud switching and creation of custom phone directories.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $60

NORTHWEST SOFTWARE ASSOCIATES (NWSA)

☐ XFERPC File Transfer Utility
Consists of master program for IBM PC and slave program for Intel MDS. Transfers files of any structure or content. Supports Intel MDS 800, Series IT/III and NETWORK NDS machines under ISIS-II.
IBM PC, XT ☐ 32 KB req. ☐ Copies sold: 30 since 1983 ☐ Cost: $200

NORTON-LAMBERT CORP.

☐ Close-Up
Connects PCs. Views contents of associate's screens. Prints remotely and locally. Color graphics. Runs Framework or Microsoft Word in graphics mode. Creates Lotus 1-2-3 color graphs simultaneously on both screens. File transfer, movable chat window, and time and billing.
IBM PC, XT, AT ☐ Cost: $195-$245

☐ LYNC Telecommunications Software
Reviewed Apr 1986 p. 84.
Allows information exchange between micros, minis and mainframes, with Telex services, on-line data bases, bulletin boards and electronic mail services. Features unattended use and password protection.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 20,000 since 1980 ☐ Cost: $195

ON-LINE SOFTWARE INTERNATIONAL

☐ Omnilink
Features upload, download, file routing, automatic reformatting, customized menus and functions, English syntax query for selective file transfer download, help, and data dictionary. Ten levels of security.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 320 since 1983 ☐ Cost: $495

PARAGON COMPUTER CONSULTANTS

☐ Fastwire
Transfers files between PCs.
IBM PC

PATHWAY DESIGN, INC.

☐ pcPATH 5250
Allows remote communications between PCs and IBM S/34, 36, 38 on SNA networks. Emulates 5251 Model 12 and attached devices. Includes monochrome and color display support, 5250 command support and special function keys. Bidirectional text/binary data transfer.
IBM PC ☐ 320 KB req. ☐ Introduced: 1986 ☐ Cost: $750

PERSONAL BIBLIOGRAPHIC SOFTWARE, INC.

☐ Pro-Search
Accesses DIALOG 2, BRS and on-line services. Lets user download search results, logon and logoff automatically, and upload search strategies. Tracks and charges back search costs. Prints invoices and monthly accounting reports. Accesses up to 20 other on-line services.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $495

PHOENIX COMPUTER PRODUCTS CORP.

☐ Ptel
File transfer program. Supports ASCII, Kermit, Xmodem, ModemF and Telink. Provides on-screen error correction.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $195

PICK SYSTEMS

☐ MainLink
Bi-directional transfer of any type of data between machines. Moves items, files and accounts. Includes transmission error checking device and PICK/BASIC interface performed by assembler-driven precompiler.
IBM PC, XT, AT ☐ Cost: $295-$395

POLYGON, INC.

☐ poly-COM
Async communications package. Includes both Poly-XFR and Poly-TRM/VT.
IBM PC, PCjr, XT, AT ☐ 64 KB req. ☐ Copies sold: 60,000 since 1981 ☐ Cost: $200

☐ poly-Share
Creates VAX-based libraries of PC applications and files. Allows storage, organization and sharing of PC files and applications among PCs and terminals connected to VAX. Cross indexes entries by category, depositor name and date of entry. Three levels of security.
IBM PC ☐ 64 KB req. ☐ Introduced: 1986 ☐ Cost: $995-$2,795

☐ poly-XFR
Provides communications among host and personal business or microprocessor development systems. Checks for errors, retransmits data and operates bidirectionally.
IBM PC, PCjr, XT, AT ☐ 64 KB req. ☐ Copies sold: 50,000 since 1981 ☐ Cost: $150

POPULAR PROGRAMS, INC.

☐ Pop-Up TeleComm
Autodials phone numbers and connects users to information services including Dow Jones, CompuServe and The Source. Transmits/receives data. Accessible while another program is running. Makes connections through discount long-distance service.
IBM PC, XT, 3270-PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $80

POSEIDON SYSTEMS

☐ POLLPAC
Polls ECRs and POSs locally or over phone lines using Poseidon's PAC. Prepares call parameters. Schedules calls. Edits data files. Sequenced scheduler with programmable number of entries. Report generator produces log and exception reports.
IBM PC, XT, AT ☐ 128 KB req.

RACAL-VADIC
(subsidiary of Racal Electronics, Ltd.)

☐ George
Provides log-on sequences, dialing from directory, ASCII and Xmodem file transfer, unattended operation, built-in message editor, key mapping and password protection. Supports TTY, VT100, VT52, ADM 3A, ADM 31 and TVI912 terminal emulation.
IBM PC ☐ 192 KB req. ☐ Cost: $80

READIWARE SYSTEMS, INC.

☐ ReadiTerm
Command driven async communications program. Emulates VT100, IBM 3101 terminals and XMODEM protocol. Works with any modem or networks at speeds of 110 to 9600 baud.
IBM PC ☐ 96 KB req. ☐ Copies sold: 600 since 1982 ☐ Cost: $125

REAL-TIME COMPUTER SCIENCE CORP. (RTCS)

☐ UCOMM
Transfers programs and data from an IBM PC to an Intel Microprocessor Development System (MDS). Provides batch file transfer and Xmodem protocol and remote directory capabilities.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 10,000 since 1982 ☐ Cost: $250

REXON BUSINESS MACHINES CORP.
(subsidiary of Rexon, Inc.)

☐ PC Harmony
Provides bidirectional file transfer between PC and local or remote Rexon system. Reformats host data into PC application formats during or after downloading from Rexon system. Provides built-in validation and on-line prompting.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985

SHARED SYSTEMS TECHNOLOGIES, INC.

☐ ACE (Advanced Communications Emulator)
Async file transfer program with DEC VT-100 terminal emulation. Options include printer on/off, ignore specified characters during transmission, echo/no echo of characters, display/no display of characters, tab stop setting, handshake protocols, baud rates, character length, parity and stopbits.
IBM PC ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $95

I. P. SHARP ASSOCIATES, LTD.

☐ Microcomm
Communicates with IPSA communications network.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $50

SIGEA SYSTEMS, INC.

☐ Telecommuter
Allows user to move text files and BASIC programs between TRS-80 Model 100 or other computer and IBM PC or compatible. User creates programs to run over standard telephone lines from remote terminal or computer.
IBM PCjr, PC, XT, AT ☐ 128 KB req. ☐ Cost: $200

☐ Telecommuter-plus
Word processing sytem with access to DOS from editor, file transfer with Xmodem, telcom communications with on-line access to editor, Xmodem and VT-100 emulation, host mode with eight access levels and Xmodem.
IBM PCjr, PC, XT, AT ☐ 128 KB req. ☐ Cost: $400

SOFTCORP, INC.

☐ PC/Freeway
Data communications between 300-9,600 baud, unattended file transfer, auto-dial and auto-answer, and pause during dialing. Maintains directory of 64 phone numbers. Sends and receives in background under IBM's TopView. Includes appointment system for up to 64 appointments. Requires Hayes Smartmodem.
IBM PC, XT, PCjr ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $49

SOFTGUARD SYSTEMS, INC.

☐ Blue Bridge
Allows users to read, write and format 3.5-inch microdiskettes.
IBM PC, XT ☐ Cost: $300-$475

SOFTKLONE DISTRIBUTING CORP.

☐ Mirror
Async data communications and file transfer. Dials, answers and redials. Creates script files and macros. Provides buffer, clock, editing, remote access, error checking, password protection and multi-tasking mode. Emulates DEC VT100/52, IBM 3101, TeleVideo 912C/920/925, TI 940, ADDS Viewpoint and Lear Siegler ADM-3A.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 5,000 since 1985 ☐ Cost: $50

SOFTWARE PUBLISHING CORP.

☐ PFS:Access
Enables access to information, timesharing, communication and home banking services. Remembers dial-up and log-on sequences and provides data encryption. Sends mail using MCI MAIL or Western Union Easylink.
IBM PC, XT, PCjr, Portable PC, AT ☐ Cost: $70-$95

THE SOFTWARE STORE

☐ Mastercom
Smart terminal and file transfer utility. Emulates terminals, captures data disk and/or printer from host system, exchanges files with like system or Christensen Modem 7 protocol equipped system.
IBM PC ☐ 48 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $49

SOFTWARE SYNERGY, INC.

☐ Respond/PC Host
Turns IBM PC or compatible into unattended host for async communications and file transfer with another PC. Auto-answers phone calls and auto-returns to answer mode if disconnected. Uses Xmodem error checking protocols. Two-way keyboard conversation, remote or local disconnect.
IBM PC, XT, AT, Portable PC ☐ 384 KB req. ☐ Cost: $195

☐ Respond/Secure PC Connect
Encrypts, decrypts, and transmits files between communication links. TTY emulation for async communications. Manages files, loads encryption keys, sends to and from encryption board. Includes PC expansion board.
IBM PC ☐ 256 KB req. ☐ Cost: $575

☐ Respond/3270 BSC Remote
Emulates remote 3276/2 controller and display with attached 3287 printer. IBM Bisync line support with configurable poll and station address. Hot key allows return to DOS applications while keeping poll and answer sequence active in background.
IBM PC ☐ 256 KB req. ☐ Cost: $795

☐ Respond/3270 Secure SNA Remote
Supports IBM SDLC protocol and SNA protocols used by IBM 3274 and 3276 control units equipped with IBM's Cryptographic. Encrypts/decrypts data that is stored on disk, transmitted on host network, or sent via public communications facilities. Includes PC expansion board.
IBM PC ☐ 256 KB req. ☐ Cost: $1,995

☐ Respond/3270 SNA Remote
Emulates 3276 Model 12 remote workstation with attached 3287 printer. Connected through sync modem or modem eliminator. PC appears to host as SNA/SDLC type 2 keyboard and display and LU type 1 or 3 printer.
IBM PC ☐ 256 KB req.

☐ Respond/5251/12 Remote
Emulates 5251 Model 12 remote workstation with attached 5256 dot matrix printer to connect to S/34/36/38. Switched, leased point-to-point or multipoint lines at speeds from 1200 bps to 9600 bps through sync modems or modem eliminators. TTY terminal emulation.
IBM PC ☐ 256 KB req. ☐ Cost: $795

SOURCEVIEW SOFTWARE INTERNATIONAL

☐ Commstar VI
Performs terminal support functions. Integrates video, keyboard modem and output devices. Contains 2 modules. Supermodem operates terminal during timesharing. Configurator modifies Supermodem for variety of interactive environments. Interfaces with Compuserve and Teradyne M365.
IBM PC ☐ Cost: $99

☐ Interactive Modem
Allows xmodem protocol transfers between dissimilar computers. Supports several modems for each major computer system. Features automatic set-up. Derivative of Modem 7 program used on 8080 or Z80 computers.
IBM PC ☐ Cost: $30

☐ PC Line Monitor
Replaces communications line monitor. Displays data sent by either end of communications link in ASCII or HEXadecimal, enabling operator to analyze protocol information on communications link. Supports parity modes and baud rates. Combines with portable computer to allow mobility in analyzing communications hardware and software.
IBM PC ☐ Cost: $100

SOUTHEASTERN SOFTWARE

☐ Data Capture
Sends and receives text from disk files or capture buffer, then is viewed, edited, printed, and saved.
IBM PC, XT ☐ Cost: $90-$120

SPEEDS CORP.

☐ SPEEDS
Electronic delivery of computer-executable programs and files. Transmits binary code over standard telephone lines anywhere in the world.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $80

SPERRY CORP.
Information Systems Group

☐ DDP-5000
Sperry no. 7639-01. Communications protocol software. Establishes links among Sperry PCs, Sperry 1100s and other Sperry 5000 systems. Provides file creation, copy and deletion, job submission and cancellation and status determination.
IBM PC

☐ DIS 5000
Sperry no. 7640-01. Enables 5000/60 or 5000/80 to communicate with Series 1100 mainframe, Sperry PC or other Sperry Series 5000 systems. Provides file creation, copy and deletion, job submission or cancellation and status determination.
IBM PC

☐ PARS/IPARS PC Support System
Combines hardware and software and enables Sperry PCs to communicate with IBM-based airline reservation systems. Includes Transport Software, Development Software, Auto VML Software and Dupe Q Software, co-processor based communications board, second communications port and interface cable.
IBM PC ☐ Cost: $1,615

STAG MICROSYSTEMS, INC.

☐ StagCom-1
Operates Stag PROM programmers equipped with serial interface directly from PC. Uploads contents of master device or contents of Stag programmer's RAM from computer. Embedded software can then be printed out for review, edited or transmitted to distant locations.
IBM PC ☐ 256 KB req.

STRATUS COMPUTER, INC.

☐ PC/Connect Term, Host
Allows PC users to access/exchange information with Stratus Continuous Processing system over dial-up/dedicated link. Utilizes Stratus system's fault tolerance. Permits PCs to be used as async terminals. Performs file transfer. Suspends operation under VOS OS to operate PC application.
IBM PC ☐ Cost: $1,000-$2,000

SYNEX SYSTEMS CORP.

☐ PC-Harmony
Links IBM PCs to Wang 2200, Basic Four minicomputers and PICK-based systems.
IBM PC, XT, AT ☐ 360 KB req. ☐ Cost: $595-$695

SYNTAX SYSTEMS, INC.

☐ VIM FileTransfer
Supports bidirectional transfer to VAX and other computers on DECnet network. Performs file and code conversion between PC and VAX file formats.
IBM PC ☐ Copies sold: 70 since 1985 ☐ Cost: $500

TEXAS INSTRUMENTS

☐ TTY Communications
Allows TI Professional to communicate with Teletype terminals in async mode. Applications include replacement of terminal devices, public data base services, news retrieval services and intraoffice communications, distribution of files and programs to micros, data transmission to host and electronic mail.
IBM PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $60

3COM CORP.

☐ 3+Share User
Local workstation program for file/print and name service.
IBM PC, XT, AT ☐ Introduced: 1986 ☐ Cost: $75

TITN, INC.

☐ ISO Session Layer
Functions include establishment, negotiation of optional services and token management. Performs air control and detection over Ethernet.
IBM PC ☐ 60 KB req. ☐ Copies sold: 5 since 1985

☐ Twice F.T.P.
File transfer protocol. Transfers files over a network.
IBM PC

TOUCHSTONE SOFTWARE CORP.

☐ PCworks
Allows the IBM PC or compatibles to communicate with and transfer data to a UNIX or VAX/VMS system, other PC or Apple Macintosh. Provides terminal emulation, file transfer and electronic mail capabilities. PC may be connected to UNIX system via RS232C async communication line.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10,000 since 1984 ☐ Cost: $195

UNIPRESS SOFTWARE, INC.

☐ Connectables Network: PCworks, MacLine, UniHost, UniHost/VMS
Transfers data between PCs/Macintoshes or between PCs and UNIX or VMS hosts. Provides mail system. Terminal emulation supports ANSI, TTY and VT100/52. Supports ASCII and binary file transfers. Prints or spools output to UNIX or VMS printer.
IBM PC ☐ 150 KB req. ☐ Copies sold: 5,000 since 1985 ☐ Cost: $145-$995

UNITED SOFTWARE INDUSTRIES

☐ ASCII PRO
Accesses remote data bases and news services. Includes terminal emulation, macro programming, on-line help, built-in text editor, data transmission and unattended remote operations.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 25,000 since 1984 ☐ Cost: $100

U.S. DIGITAL CORP.

☐ Copylink
Provides smart terminal simulation, Telex and file transfers between incompatible microsystems. Provides automatic calling, logon, disconnect, unattended remote operation and file handling. Compatible with Bell 103, 212A Hayes modems.
IBM PC ☐ 48 KB req. ☐ Copies sold: 10,000 since 1982 ☐ Cost: $100

☐ Copylink Plus
Allows procedures to be defined for communications in same way that data can be defined with data base software. BASIC-type commands and integral communications programming.
IBM PC ☐ 256 KB req. ☐ Copies sold: 4,000 since 1983 ☐ Cost: $150

US ROBOTICS, INC.

☐ TELPAC
Programs computer with modem commands to enable system to call any other data system. Contains file, telephone, utility, settings and help as subject headings. Includes multiple error detection.
IBM PC ☐ 256 KB req. ☐ Copies sold: 20,000 since 1982 ☐ Cost: $149

USMA COMPUTER CO.

☐ COM-Man
Communciations management system.
IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 10 ☐ Cost: $295

VICTOR TECHNOLOGIES, INC.

☐ IEEE 488
Allows parallel port to be used for communications with various instruments such as data acquisition and control products, measurement devices, and plotters that conform to the ANSI standard MC1.1 Digital interface for programmable instrumentation.
IBM PC ☐ 128 KB req. ☐ Cost: $195

☐ PC-Comm
Downloads text and object files. Interface-connection is made through the IBM Parallel Printer Adapter and the parallel port on computer.
IBM PC ☐ 128 KB req. ☐ Cost: $175

WANG LABORATORIES, INC.

☐ PC Asynchronous Communications Option
IBM PC ☐ Cost: $100

☐ PC Basic Support Services for WSN File Transfer and VS DP Terminal Emulation
Exchanges documents among Wang Computers. Operates between a Wang Professional and a Wang VS, OIS or other Wang computer. Provides multipoint secondary, X.25 or point-to-point transfer.
IBM PC ☐ 128 KB req. ☐ Cost: $100

☐ PC WSN Multipoint Secondary Transport
IBM PC ☐ Cost: $250

☐ PC WSN Point-Point Transport
IBM PC ☐ Cost: $250

☐ PC/VS Data Exchange Utility
File transfer between Wang PCs and VS systems. Converts PC file to VS print file and sends it directly to VS printer. Transfers data among various spreadsheets such as Lotus 1-2-3, VisiCalc and Multiplan.
IBM PC

☐ UJ-3201 Upgrade to Enhanced Local Communications
IBM PC ☐ Cost: $50

WATCOM PRODUCTS, INC.

☐ JANET/2
Transparent network provides four virtual diskette drives. Virtual diskettes are password protected. File space is defined using 20K to 320K virtual diskettes. Includes printer-spooler facilities.
IBM PC, PCjr, Portable PC ☐ 128 KB req. ☐ Copies sold: 70 since 1983 ☐ Cost: $1,200

WOOLF SOFTWARE SYSTEMS, INC.

☐ Move It
Transfers programs to/from each other. Features file compression, keyboard macros, scripting files, multiple protocol support, infilter and outfilter commands and automatic file send receive.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 25,000 since 1981 ☐ Cost: $125-$150

WORDCRAFT

☐ Micro Link II
Connects micro to other computers. Captures/sends files. Modem error correction. Auto-dial/log-on capabilities.
IBM PC ☐ 64 KB req. ☐ Copies sold: 50,000 since 1981 ☐ Cost: $99

XI SYSTEMS TECHNOLOGY, INC.

☐ DSNM
Dials and distributes any data file and application programs to remote workstations. Accommodates hardware and architecture differences. Supports IBM host mainframe applications defined to VTAM. Designed for Fortune 1000 companies utilizing very large, dial-up/leased line networks.
IBM PC ☐ 320 KB req. ☐ Copies sold: 20 since 1983 ☐ Cost: $75-$410

COMMUNICATIONS—EMULATION/SIMULATION

ADVANCED TECHNOLOGY CENTER

☐ PC 100/4010
Emulates DEC VT100 and Tektronix 4010 terminals. Transfers ASCII files two-way between host and PC.
IBM PC

☐ PC 100/4105
Emulates DEC VT100, VT52 and Tektronix 4010, 4014 and 4105 color graphics terminals. Features vectors, markers and text. Produces vector drawing at rates up to 25,000 pixels per second, and polygons with 195 patterns and dithers.
IBM PC ☐ 100 KB req. ☐ Copies sold: 10 since 1986 ☐ Cost: $350

AKRON SOFTWARE RESEARCH AND DEVELOPMENT

☐ **ISAC (Integrated Serial Asynchronous Communications)**
Terminal emulation of DEC VT100 and other intelligent terminals through menu driven operation. Includes file transfer capabilities, data filtering and translation, modem control and telephone directory.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1984 ☐ Cost: $150

ALLOY COMPUTER PRODUCTS, INC.

SEE AD ON PAGE 129

☐ **Link-PC**
Provides keyboard and monochrome display and file transfer capability. Allows PCs to connect to clusters and operate as terminals.
IBM PC, XT, AT ☐ Copies sold: 250 ☐ Cost: $95

ATON INTERNATIONAL, INC.

☐ **Micro/Remote 3270 Emulator**
Emulates 3270 terminal. Enables IBM PC to act as IBM 3275 model 2 terminal. Accesses mainframe-based information. Transfers ASCII/EBCDIC files. Allows PC printer to emulate IBM 328X mainframe printer. Requires IBM's bisync communications adaptor.
IBM PC ☐ 24 KB req. ☐ Introduced: 1984 ☐ Cost: $9,500

ATTACHMATE CORP.

SEE AD ON PAGES 23/255

☐ **3270-PC Emulation Program**
Reviewed Feb 1986 p. 48.
Supports Digital Communications Associates IRMA 3270 interface board and IBM 3278/79 Emulation Adapter. Supports IBM 3270-PC API. Supports up to 4 concurrent 3270 host windows and PC window. Supports optional host graphics. Runs with Attachmate's proprietary 3-N-1 Coax Adapter.
IBM PC ☐ 53 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $395

AVATAR TECHNOLOGIES, INC.

☐ **PA-PLUS**
IBM 3278 emulation provides compatibility with Avatar PA1000 and PA1000E protocol converters. Allows customized keyboard for user-programmable layouts, keystroke record/playback or programmable functions keys. Provides dual-level password security. Supports Concurrent DOS and 3270 sessions.
IBM PC, XT ☐ Introduced: 1985 ☐ Cost: $100

AVOCET SYSTEMS, INC.

☐ **AVSIM Series**
Simulator/debugger for 6805, 6809, 8048, 8051, 6801, 8085 and Z80 families. Simulates chips including RAM/ROM boundaries and on-chip peripherals. Handles interrupts and I/O. Includes breakpoint facility.
IBM PC ☐ 128 KB req. ☐ Cost: $299 (IBM)

BARR SYSTEMS, INC.

☐ **HASP**
HASP emulation of IBM 360/20 and 3777-2. Transmits/receives into IBM's MVS/JES2, MVS/JES3 and VM/RSCS bypassing TSO and CMS. Includes LAN support, concurrent DOS, printer forms control, plotter support and unattended operation.
IBM PC, XT, AT, Portable PC ☐ 256 KB req. ☐ Copies sold: 2,500 since 1983 ☐ Cost: $890

BOS NATIONAL, INC.

☐ **Communications (2780/3780)**
Provides IBM 2780/3780 emulation.
IBM PC, XT, AT ☐ Cost: $500

THE BOSTON SOFTWARE WORKS

☐ **LC-Term**
Emulates VT102 and selected VT220 functions.
IBM PC ☐ Cost: $150

CALIFORNIA NETWORK SYSTEMS

☐ **PCNetwork/SNA 3270 GateWay**
3270 emulation capabilities. Supports up to 192 concurrent sessions. Toggles between 3270 functions and other DOS applications. File transfer capabilities.
IBM PC, XT, AT ☐ 128-384 KB req. ☐ Cost: $375

CAMBRIDGE COMPUTER CORP.

☐ **PC 73/78**
Emulates Honeywell VIP7200, VIP7300 and VIP7800 series of async terminals. Allows user to escape from emulator and execute DOS command or user program. File transfer includes Kermit, Xmodem and Nonprotocol. Requires async communications adapter.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 3,000 since 1985 ☐ Cost: $295

☐ **PC 77/78**
Emulates Honeywell VIP7700 and VIP7800 series of sync terminals. Provides access to host via multiple windows. Permits remote printing. Requires bisync communications adapter.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 8,000 since 1984 ☐ Cost: $350

CANAAN COMPUTER CORP.

☐ **Multigate-PC Plus**
Stores and accesses PC files transparently on disks of Canaan DCS 5800.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $2,500

CENTURY SOFTWARE

☐ **Term Communications Software**
UNIX/XENIX to UNIX, XENIX, IBM PC or CP/M serial communications, file transfer and VT-100 terminal emulation. Provides 2 error-checking protocols including X-Modem and various non error-checking protocols. Character translation for textfile compatibility. Wildcard file selection transfers entire directories.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 3,500 since 1982 ☐ Cost: $150

CHI CORP.

☐ **Sperry Communications for the IBM PC, XT, AT**
Allows PC to be used for interactive data communications and to transfer files to/from Sperry CPU. Emulations available include IBM 3270, DEC VT-100, Honeywell 77XX and 78XX and UTS 60 MAPPER Graphics.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,916 since 1984 ☐ Cost: $745-$1,120

CLEO SOFTWARE

(a division of Phone 1, Inc.)

☐ **3270 SNA or BSC**
Emulates remote cluster of IBM terminal devices. Controlling PC emulates IBM 3276 Model 2 or 12 under SNA and 3274 Controller while attached PCs emulate 3278 terminals. Allows 3287 printer emulation. Compatible with NETBIOS LANs including Advanced NetWare, PCNet and MSNet.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 27,000 since 1976 ☐ Cost: $625-$4,395

☐ **3780Plus**
Emulates 2780/3780 terminals for RJE and file transfer. Includes point-to-point or multipoint operations, text or binary files transmission/reception, device selection, printer files, log file, serial line monitor and system command allowing DOS commands from within system.
IBM PC ☐ 256 KB req. ☐ Copies sold: 15,000 since 1981 ☐ Cost: $625-$1,595

☐ **5250 SNA**
Accesses IBM S/34, 36, 38 applications. Operates like 5251 or 5294 controller and 5291/92 display device with optional attached printer emulating 5256 device. Includes internal SIC card or SYNC modem to make switched, leased, point-to-point or multipoint connections.
IBM PC, XT, AT

COEFFICIENT SYSTEMS CORP.

☐ **VTERM Version III, Version 4010**
Async communications. VT100, 101, 102, 52, and Tektronix 4010, 4014 emulation. Communicates with DEC, other minis/mainframes. Transfers ASCII and binary files. Host software support for VMS, RSTS, RSX-11 and UNIX. Hot key switches between VTERM and DOS.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 40,000 since 1981 ☐ Cost: $195 (VTERM III); $249 (VTERM 4010)

☐ **VTERM/220**
VT220 terminal emulation with async communications to 19,200 baud. Communicates with DEC and other minis/mainframes. Transfers ASCII and binary files with error correction. Host file transfer for RSTS, VMS BASIC and FORTRAN, UNIX C and RSX-11. Kermit file transfer.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $245

COMMUNICATION RESOURCES

☐ **ACE (Asynchronous Communication Emulators)**
Allows IBM PC or compatible to emulate Honeywell VIP7200 or VIP7300 series terminal. User can interact with PC while on-line to Honeywell system. File transmission facility for GCOS 6 Mod 400 systems. Transmits ASCII or binary data files.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $349

COMMUNICATIONS SOLUTIONS, INC. (CSI)

☐ **Access/BSC 3270**
IBM 3270 BSC emulation. Supports interactive or batch terminal operation and communication to printer or disk. Uses target device as cluster controller functioning as gateway for local network-connected devices. Emulates IBM 3274 cluster controller, 3278 and 3279 terminals, and 3287 printer.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984

☐ **Access/DIA**
Emulates IBM Document Interchange Architecture (DIA). High level interface to application programs used to perform document distribution, retrieval and access to DISOSS-based document libraries. DIA command and protocol processing.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985

☐ **Access/SNA APPC**
IBM Advanced Program-to-Program Communication (APPC/LU6.2) emulation. Applications use basic conversational verb interface to send and receive data from IBM host-based applications like DISOSS. End-to-end error reporting capability.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985

☐ **Access/SNA 3270**
IBM 3270 SNA emulation. Supports interactive or batch terminal operation and communication to printer or disk. Target device used as cluster controller functioning as gateway for local network-connected devices. Operates as PU type two with LU 1,2, and 3 support.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983

☐ **Access/SNA 3770**
IBM 3770 SNA cluster controller and 3777-1 RJE workstation emulation. Single and multi-user environments. Supports 3770 logical device including printer, punch, card reader and console. Maintains session log on disk to record RJE console messages.
IBM PC ☐ 128 KB req. ☐ Introduced: 1983

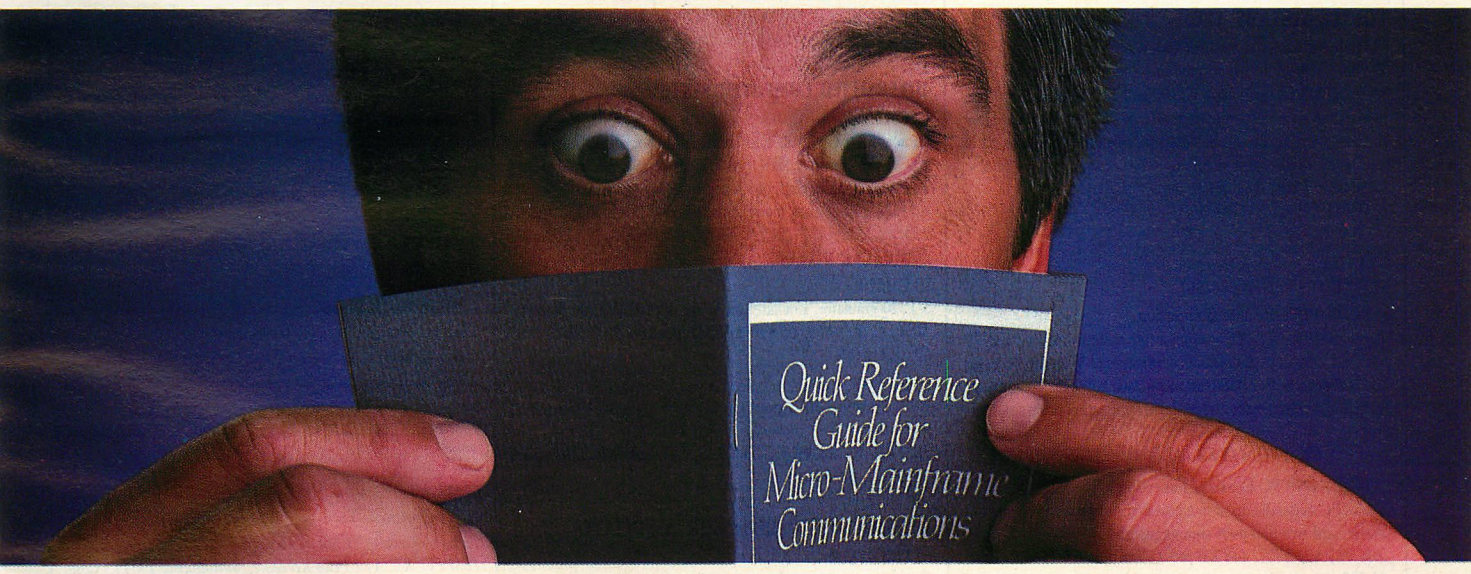
COMMUNIQUE' CORP.

☐ **CQ-HASTE (HASP Station Emulator)**
IBM PC

☐ **CQ-3770-SNA**
IBM PC

☐ **CQ-3780**
IBM PC

HERE'S HELP



Attachmate has answers to your questions about micro-mainframe communications. Hardware answers, software answers and now a guide packed full of answers to some important questions—questions worth asking *before* you make long-term decisions.

What should you know about IBM® standards, multiple sessions, windows, file transfer, API, and graphics?

You'll find the answers and solutions in Attachmate's *Quick Reference Guide for Micro-Mainframe Communications*—with a chart comparing IBM, IRMA®, and Attachmate. For a free copy, call toll free:

1-800-426-6283

Attachmate

Micro-Mainframe Technology: We put our heart in it!

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(206) 644-4010

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CIRCLE NO. 165 ON READER SERVICE CARD

COMPUTER TOOLBOX, INC.

☐ Intellicom

Supports real terminal emulations allowing user to call host computer and look like terminal of user's choice. File transfer available. Supports ASCII transfer honoring Xon/Xoff protocol. Error checking protocols include Xmodem, Kermit and CompuServe.

IBM PC ☐ 256 KB req. ☐ Copies sold: 10,000 since 1984 ☐ Cost: $90

COMPUTER VECTORS, INC.

☐ RCOM

Connects IBM PC user to another PC, data banks, networks and services, or to IBM mainframe. Emulates DEC VT-52/100, 3277 and 3279 terminals. Supports full or half duplex, baud rates from 110-9,600, and 230 character auto-dial string for dialing and log ons.

IBM PC, XT, AT ☐ 96 KB req. ☐ Copies sold: 3,600 since 1983 ☐ Cost: $70

CONCEPT TECHNOLOGIES, INC.

☐ Tektronix 4014 Emulation

IBM PC, XT, AT

CONNECT COMPUTER, INC.

☐ CONNECT

Transforms PC into intelligent terminal. Accesses information retrieval services. Communicates with host mainframe, service bureaus and micros. Includes phone directory with auto dial and auto logon procedures, automated conversations, information/data capture, remote access and file transfer. Supports VT100, Kermit, Xmodem.

IBM PC ☐ 256 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $195

CORVUS SYSTEMS, INC.

☐ Dial-Out Communications Gateway

Provides shared access to modems and communication lines. Allows IBM PCs to emulate VT102 and TTY terminals for communication with host computers. Communicates over Omninet to Corvus Utility Server. Selected service menu features list of frequently used communications services such as The Source, CompuServe and Dow Jones.

IBM PC, XT, AT ☐ Cost: $695

CXI, INC.

SEE AD ON PAGES 266/267

☐ PCOX/PLUS Remote Connection

Turns IBM PC, XT, AT or compatible systems into a 3278/79 terminal to access mainframe applications. Window accesses one host session, PCDOS session and two notepads concurrently. Includes file transfer and uniform application program interface.

IBM PC, XT, AT ☐ 448 KB req. ☐ Cost: $895

☐ PCOX/3270 PC Coaxial Connection

Allows PC to handle up to five host mainframe sessions, one PC session and two notepads simultaneously.

IBM PC, XT, AT ☐ 448 KB req. ☐ Introduced: 1983 ☐ Cost: $1,595

☐ PCOX/3270 PC Remote Connection

Turns IBM PC, XT, AT or compatibles into an IBM 3270 PC. Accesses up to 5 host sessions, 1 PC session, and 2 notepads, simultaneously. File transfer and application program interface.

IBM PC, XT, AT ☐ 448 KB req. ☐ Introduced: 1985 ☐ Cost: $1,190

DATABILITY SOFTWARE SYSTEMS, INC.

☐ RAF (Remote Access Facility)

Allows PC to emulate DEC VT100 terminal in order to link to DEC VAX hosts. Contacts and logs into remote processor. Accesses remote files. Provides remote execution of subroutines and entire programs.

IBM PC, XT, AT ☐ Cost: $125-$395

DATASTREAM NETWORKING

(division of Lee Data Corp.)

☐ Execulink II

File transfer/emulation. Integrates IBM PC with host network by transforming it into 3278 and 3287 emulator that performs 3270-PC file compatible transfer.

IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $195

DIGITAL COMMUNICATIONS ASSOCIATES, INC. (DCA)

☐ IRMAX Graphics

Enables PC to function as IBM 3270-PC with graphics. Requires DCA's IRMA board and a graphics adapter. Operates in SNA environment. Compatible with IBM Graphic Data Display Manager.

IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $1,595

☐ Smart Alec

Reviewed Jul 1986 p. 76.

Communication link between micros and IBM S/34, 36, 38. Provides bi-directional data transfer, data format translation, file chaining, multiple record types, record selection, security options, PC image files and activity logging. Emulates IBM 5251 Model 11, 5291 or 5292 Model 1 terminals and 5256 printer.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $895

DIRECT*AID, INC.

☐ Impersonator

Reviewed Sep 1984 p. 46.

Async communication and emulation for Lear Siegler ADM 3A, DEC VT 52/100, Hazeltine Esprit and 1510, TeleVideo 912/950, IBM 3101 Model 10 and 20, Dasher D210, NCR 7900 and Teletype terminals. Allows custom designed emulators, keyboard redefinition, file transfer using Xmodem protocol. Configuration file learns/remembers log-on procedure.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $245

DIVERSIFIED COMPUTER SYSTEM

☐ EM100

Emulates DEC VT102. Features English, hot key, set-up menus, ASCII file transfer, MODEM 7 binary transfer and MASS-11 Greek characters. Supports a keytronic keyboard, multiple set-up files, 132-column mode and 110-9600 bps mode.

IBM PC, XT, AT, PCjr ☐ 50 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $169

☐ EM220

VT220 emulator. Emulates all VT52, VT102, VT220 features.

IBM PC, XT, AT ☐ 65 KB req. ☐ Copies sold: 2,000 since 1985 ☐ Cost: $169

☐ EM4010

Adds Tektronix 4010 graphics capability to the VT100 terminal emulation.

IBM PC, XT, AT, PCjr ☐ 88 KB req. ☐ Copies sold: 2,500 since 1984 ☐ Cost: $249

DYNAMIC MICROPROCESSOR ASSOCIATES

☐ TERMCOM

Enables micros to replace terminals connected with minis and mainframes. PC emulates conversational and selected block mode terminals while performing async communications. Supports page, message and conversational mode, incoming sequence translation, print and on-line configuration of terminal parameters and operation modes.

IBM PC ☐ 256 KB req. ☐ Copies sold: 2,500 since 1984 ☐ $180

ESCA CORP.

☐ PC17

Emulates Aydin 5217 color graphics display device.

IBM PC ☐ 4,000 KB req. ☐ Copies sold: 7 since 1986 ☐ $700

FIVE PACES SOFTWARE, INC.

☐ Facet

Allows DOS-based PC to be attached to XENIX-based AT

IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $249

FORMULA CONSULTANTS, INC.

☐ Super

Supports UTS-20 ECC control sequence, SO/SI field capabilities, two independent screens for 16 bit microprocessors, control page monitor mode, manual/automatic print installation, windowing, user-defined function keys and sync protocol for microprocessor/host link. Transfers binary, ASCII and word processing files.

IBM PC ☐ 64 KB req. ☐ Copies sold: 30 since 1982 ☐ Cost: $395

FTG DATA SYSTEMS

☐ EMU-TEK (Level 1, Level 2, Five Plus)

Emulates Tektronix 4105 (color) or 4010/4014 (storage) graphics terminal. Communicates with mainframe graphics programs such as PLOT10 and DISSPLA. Level 2 and Five Plus feature VT-100 and VT-640 emulation, plotter support, local zoom and file transfer.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2,500 since 1982 ☐ Cost: $295-$495

GATEWAY COMMUNICATIONS, INC.

☐ G/BSC 3270

Provides bisync communications emulating IBM 3274 controller equipped with 3278 terminal.

IBM PC, XT, AT ☐ 192 KB req.

GATEWAY MICROSYSTEMS, INC.

☐ MicroGate PCOM/BSC

Emulates 2780/3780 station. Programmable and bisync communications. Provides interface subroutines for IBM Compiled BASIC, Pascal, C, COBOL and Assembly languages. Auto dial/answer for SyncLink internal PC modems. Transparent/non-transparent communication.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $695-$995

☐ MicroGate RJE/BSC

IBM PC emulates IBM 2780/3780 RJE workstation. Includes unattended command mode files, capability to execute commands recevied from remote computer, and multi-level user help sessions.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $695-$995

☐ MicroGate 3270/BSC

IBM PC emulates IBM 3270. Provides interactive and batch access to host mainframe. Operates up to 9,600 bps via dial-up or leased point-to-point or multi-point telephone lines using bisync protocol.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $995

☐ MicroGate 6540

IBM PC emulates Tandem 6520/6530 terminal. Supports bidirectional transfer of ASCII and binary files.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $295-$300

☐ MicroGate 931

Emulates TI model 940/931, used with TI Business System minicomputers. ASCII and binary file transfer. Operates with any standard PC serial communications port.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $250-$300

GENERAL MICRO SYSTEMS

☐ PC102

Emulates DEC VT100, VT101, VT102 or VT52. Includes U.S. and European ASCII character sets. Permits continuous printing more than 80 columns wide. Full duplex async support and EIA/RS-232C interface.

IBM PC, XT, AT, PCjr ☐ 96 KB req. ☐ Copies sold: 3,000 since 1982 ☐ Cost: $139

☐ PC220
Keyboard and screen emulation of DEC VT220, 200, 102, 101, 100 and VT52 terminals. Thirty soft keys, slow scroll at 6 lines/second, 132-column support and status line. Exit to and return from DOS. Includes kermit binary file transfer protocol.
IBM PC, XT, AT ☐ Cost: $169

☐ PC4010
Turns IBM PC, XT or PC compatible into Tektronix 4100 graphics terminal. Functions as DEC VT100/52/102 with file transfer and printer support.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $189

GENESIS MICROSYSTEMS
SEE AD ON PAGE 373

☐ GeneProbe
In-circuit emulator interface and debugging tool.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1985

GRAFPOINT

☐ TGRAF-05
Tektronix 4105, 4010, DEC VT100, VT52 emulation. Features 19,200 baud throughout and setup mode for defining parameters. Handles monochrome and color printers and plotters with a resolution of 1,024 X 1,024.
IBM PC, AT, 3270-PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $395-$495

☐ TGRAF-07
Tektronix 4107 emulation. Supports resolutions to 1024 X 1024. Works with ANVIL-4000, PATRAN-G and ANSYS.
IBM PC ☐ Cost: $995

GRANADA SYSTEMS DESIGN, INC.

☐ PC/Sail (Synchronous/Asynchronous Interactive Link)
Allows IBM PC to act as protocol translator to transmit information from async devices to IBM S/34, 36 and 38 users. Uses PC and IBM 5251 Model 12 sync protocol.
IBM PC ☐ 128 KB req. ☐ Copies sold: 20 since 1984 ☐ $900

GSS

☐ Solutions GSS-Terminal
Converts desktop graphics micro into Tektronix 4010 terminal. Supports many packages currently existing on mainframe. Micro transmits files and displays host generated graphics on GSS-DRIVERS output devices. Alphanumeric terminals perform host-supported editing.
IBM PC ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $295

H & A COMPUTER SYSTEMS

☐ EDX/PC
Allows EDL programs written under EDX OS for IBM Series 1 to run on IBM PC. Supports multi-tasking emulation. Provides full-screen 4978 emulation with tab and field skip. Supports $IAM and $Sort.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $590

☐ S1Term - 3101 Emulator
3101 block and character mode emulator. Supports dial-up or direct connect, file transfer, hot-key access to background mode and color.
IBM PC, XT, AT ☐ 50 KB req. ☐ Copies sold: 500 since 1986 ☐ Cost: $195

HAWKEYE GRAFIX

☐ XTERM
Emulates VT100/102/52, IBM3101, WYSE50, TVI950, HP2624/45, ADM-3A/11, ADDS/RGO TTY. Removable status bar with time of day, caps and numeric lock status. Supports printer queue.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $49

HENSON SYSTEMS, INC.

☐ CRTXE-Network Workstation with Emulation
Async communications allowing bidirectional file transfer in terminal mode. Emulates terminal codes
IBM PC ☐ Copies sold: 300 since 1981 ☐ Cost: $250

HERSEY MICRO CONSULTING, INC.

☐ MODEM86
Portable communications program. Supports Xmodem/Modem7 protocol. Terminal emulation. DEC VT-100 emulation with Fansi-Console program. Xon/Xoff flow control. Batch processing. Includes file transfer utilities. Interrupt-driven support.
IBM PC, AT ☐ 64 KB req. ☐ Copies sold: 2,000 since 1981 ☐ Cost: $75

HEWLETT-PACKARD CO.

☐ Reflection 1
HP 2392 and DEC VT102 terminal emulation and HP 3000 file transfer. Allows Roman character sets and some unattended operation.
IBM PC

☐ SIM 3278/PC
IBM 3278 terminal emulation and file transfer.
IBM PC

☐ YTERM
Provides communication with IBM and other mainframe computers through IBM 3278 terminal emulation.
IBM PC

HONEYWELL INFORMATION SYSTEMS, INC.

☐ microSystem VIP Emulation
Enables Honeywell and IBM PCs to emulate Honeywell VIP7300 or VIP7800 terminals. Supports dual-host connection via two communications ports. Allows file transfer between PC and host. Requires multifunction communications adapter on PC.
IBM PC, XT, AT ☐ Cost: $400

☐ PC7800
Transforms IBM and compatible PCs or Apple Macintosh computers into Honeywell professional workstations. Provides terminal emulation and transparent file transfer between listed PCs and Honeywell host.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $295

HOUSTON COMPUTER SERVICES, INC.

☐ OCTACOMM/PC - ADDS Terminal Emulation
ADDS Regent 40 and Viewpoint/60 CRT emulator. Connects to host computers as interactive workstations. Block/character-mode file transfer capabilities.
IBM PC, XT, Portable PC ☐ 128 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $125

☐ OCTACOMM/PC - TeleVideo Terminal Emulation
TeleVideo 950 CRT emulator. Connects to host computers as interactive workstations. Block/character-mode file transfer capabilities.
IBM PC, XT, Portable PC ☐ 128 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $125

☐ OCTACOMM/PC - TI 931 Terminal Emulation
Connects to host computers as interactive workstations. Block/character-mode file transfer capabilities.
IBM PC, XT, Portable PC ☐ 128 KB req. ☐ Copies sold: 7,500 since 1984 ☐ Cost: $125

☐ OCTACOMM/PC - TI 940 Terminal Emulation
Connects to host computers as interactive workstations. Block/character-mode file transfer capabilities.
IBM PC, XT, Portable PC ☐ 128 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $125

☐ OCTACOMM/PC - VT100 Terminal Emulation
DEC VT100 CRT emulator. Connects to host computers as interactive workstations. Block/character-mode file transfer capabilities.
IBM PC, XT, Portable PC ☐ 128 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $125

HUNTSVILLE MICROSYSTEMS, INC.

☐ Development Packages
In-circuit emulators. Includes relocatable macro assembler and symbolic debugger.
IBM PC, XT, AT ☐ Cost: $2,695-$3,695

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Graphics Terminal Emulator
IBM no. 6024-206. Emulates Tektronix 4010, 4100 or Lear Siegler ADM 3A terminal. Allows uploading and downloading of files to ASCII-based hosts. Executes local PC commands without leaving emulator mode. Allows output to display, printer or plotter devices.
IBM PC, XT, AT, Portable PC ☐ 256 KB req. ☐ Cost: $295

☐ HLLAPI (High Level Language Application Program Interface)
IBM no. 59X9-959. Provides PC programs with ability to emulate terminal operator and communicate series of 3270-PC tasks to 1 of 5 session types including host, PC, notepad, workstation control and to alternate presentation space created within HLLAPI PC session.
IBM 3270-PC ☐ Cost: $195

☐ Intelligent Workstation Support 3101 Emulation
IBM no. 5799-TGC.
IBM XT ☐ Cost: $150

☐ IX 3270-Plus (Interactive Executive)
IBM no. 6317-060. Changes AT into IBM 3270 workstation. Built-in windowing allows multiple sessions to 1 or several hosts. Includes upload/download, suspend/resume, read ahead, browse, record and printer management functions.
IBM AT/XENIX ☐ 1,000 KB req. ☐ Cost: $995

☐ PC Network SNA 3270 Emulation Program
IBM no. 6322-526. Provides communications capability for IBM PCs. Features host-file transfer with file append and screen save, host- or operator-initiated direct print and keyboard mapping.
IBM PC, XT, AT, Portable PC ☐ 256 KB req. ☐ Cost: $375

☐ PC 3270 Emulation
Allows PCs to communicate around the ring to the 3725 Communication Controller directly attached to Token-Ring Network to access host applications. TopView compatible.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $185-$425

☐ Remote 5250 Emulation Program
IBM no. 6403-645, 685. Attaches IBM PC to IBM S/36 or S/38 via communications lines. Used as standalone computer or 5250 workstation in remote setting. Can be used with PC Support/36.
IBM PC, XT, AT ☐ Cost: $195

☐ RJE File Transfer - DPPX to PC 3270 Emulation
IBM no. 5799-BRQ. Exchanges files between IBM PC or XT and IBM 8100 DPPX/SP system.
IBM PC, XT ☐ Cost: $1,010

☐ RT PC Graphics Terminal Emulator
IBM no. 5669-064. Emulates Tektronix 4010, 4012, 4014 and 4105 protocols and Lear Siegler ADM-3A protocol. Icon-driven user interface. Alpha, vector and graphics input modes. File uploading/downloading to ASCII hosts. Allows various user-specific async host communications protocols.
IBM RT PC ☐ Cost: $600

☐ RT PC 3278/79 Emulation
IBM no. 5669-052. Emulates IBM 3278 Display Station Model 2 or IBM 3279 Color Display Station Model 2A or Model S2A. Base 3270 data-stream support. File transfer. Concurrent operation with AIX OS. Screen copy/print.
IBM RT PC ☐ Cost: $500

☐ SNA 3270 Emulation and SNA RJE Support
IBM no. 6024-036.
IBM PC ☐ Cost: $700

☐ VM/PC (Virtual Machine/PC)
IBM no. 6024-175; 6467-040. Runs IBM 370 VM/CMS programs on IBM AT/370 or XT/370 via IBM 3277/3278/3279 emulation.
IBM AT/370, XT/370 ☐ Cost: $1,150

☐ 3101 Emulation Program
Reviewed Sep 1984 p. 46.
IBM no. 6024-042.
IBM PC ☐ 64 KB req. ☐ Cost: $140

☐ **3270 Binary Synchronous Emulation**
IBM no. 6024-037.
IBM PC ☐ Cost: $700

☐ **3270-PC AT/GX 3277GA Emulator**
IBM no. 6476-047. Accesses 3277GA applications in manufacturing, petroleum and public utilities environments. Requires DOS Release 3.1 or later. Supports RS-232C plotters and digitizers. Local screen copy to IBM 5182, 5201, 4201 and 3852 Printers and local variable zoom. Mouse or tablet cursor control.
IBM 3270-PC AT/GX

☐ **3278/79 Emulation Control Program**
IBM no. 6024-134.
IBM PC, XT ☐ Cost: $235

☐ **5250 Emulation Convenience Kit**
IBM no. 6092-656. Includes electronics, parts and documentation required for an IBM PC to emulate an IBM 5250 without use of a separate program.
IBM PC ☐ Cost: $893

☐ **5250 Emulation Enhanced**
IBM no. 6403-674. Attaches an IBM PC to an IBM S/34, 36 or 38.
IBM PC, XT, AT, Portable PC

☐ **5250 Emulation Program for PC or XT**
IBM no. 6092-651.
IBM PC, XT ☐ Cost: $164

☐ **5520 Attachment Kit**
IBM no. 6403-724, 725. Minicomputer-to-PC link.
IBM PC, XT, 3270-PC, XT/370 ☐ Cost: $1,113 (6403-724); $384 (6403-725)

☐ **5520 Personal Computer Attachment**
IBM no. 6109-558; 7033-703. Terminal emulator
IBM PC, XT ☐ Cost: $284 (6109-558); $164 (7033-703)

ID SYSTEMS CORP.

☐ **TESSY PLUS (Terminal Emulation Software System)**
Allows IBM PC, AT, XT to emulate DEC VT100 and Tektronix 4010, 4014, 4105. Handles file transfer, hot key and hard copy.
IBM PC, AT, XT, Portable PC ☐ 128 KB req. ☐ Introduced: 1986

INFORMATION ANALYSIS SYSTEMS CORP.

☐ **Genterm/ADM3**
Complete Lear Siegler ADM 3A/31 emulation including protected fields, conversational and block modes, auto 2-page operation. Printer, Aux Device support, twenty macro keys, screen to disk. All keys redefinable. Standard communications package features. Site licenses available.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $80

☐ **Genterm/TTY**
Low cost dumb terminal emulation includes transparent mode for viewing control characters, printer, Aux Device support, twenty macro keys, screen to disk. All keys redefinable. On-line documentation and help. Standard communications package features. Site licenses available.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $50

☐ **GENTERM/TV9**
TeleVideo 950 emulation including block, conversational, and monitor modes and editing functions. Printer support. Programmable function keys. Twenty macro keys. Save/restore screen to/from disk. Keys user-defined. Standard communications package features.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $80 (Unit 1); $10,000 (site license)

☐ **Genterm/VT100**
Complete VT100 emulation including alternate keypad, VT52, 132-column via scroll, graphics character set, simulated double height/width characters. Printer, Aux Device support, twenty macro keys, screen to disk. All keys redefinable. Standard communications package features. Site licenses available.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $80

☐ **Genterm/3101**
Complete IBM 3101 emulation including character, block, transparent and program modes. Printer and Aux Device Support. Twenty macro keys, save/restore screen to/from disk. Keys redefinable by user. On-line documentation and help. Standard communications package features. Site licenses available.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $80

INFORMATION TECHNOLOGIES, INC.

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☐ **LinkUp System Coax PC**
Reviewed Feb 1986 p. 48.
Emulates IBM 3278 display terminal and connects directly to IBM 3274 or 3276 control device or to IBM 43XX computer.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 6,000 since 1984 ☐ Cost: $495

INFOSERVICES

(division of SCS/Compute)

☐ **IST100**
Emulates Prime PST 100. Accesses EMACS, OAS, INFORMATION, SIMPLE and FORMS application programs.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $195

☐ **PC-Partner**
Transfers ASCII and binary files bi-directionally. Supports KERMIT and XMODEM protocols. Protects file overwrite as query or rename. Runs local DOS programs without disconnecting from host. Emulates PST 100 terminal.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 200 since 1986 ☐ Cost: $195

INNER LOOP SOFTWARE

☐ **VDTE 2.1**
IBM PC replaces HP2624, HP2648 and VT52 type display terminals. Transfers ASCII files. Supports block mode for compatibility with most HP3000 software and subset of HP2648 vector graphics plotting sequences. Can use both serial ports. Seven pages off-screen scrolling memory.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2,500 since 1983 ☐ Cost: $200

THE INTELLIGENT COMPUTER USERS GROUP

☐ **CP/EM**
CP/M-80 emulation for MSDOS. Includes serial communications programs to aid transfer of programs and data files. Allows data files to be shared between CP/M and MSDOS applications.
IBM PC ☐ 32 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $80

INTELLIGENT TECHNOLOGIES INTERNATIONAL CORP.

☐ **Bisync Exchange 3780**
Emulates IBM 3780/2780. Provides PC to PC 4800 baud communications.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $695

☐ **ClusterNet 3270S**
IBM PC performs IBM 3274 cluster controller functions. Consists of printed circuit board and SNA software. Up to four networked PCs share single modem and access IBM SNA/SDLC ClusterNet mainframe. Requires supplemental 3278 package.
IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $1,095

☐ **ClusterNet 3278**
Enables IBM PC to emulate 3278/3279.
IBM PC, XT, AT ☐ 64 KB req. ☐ Cost: $495

☐ **Coax Exchange II**
Provides 3278/9 emulation, file transfer capabilities and links directly to IBM 3274 or 3276 cluster controller via coaxial cable.
IBM PC ☐ 96 KB req. ☐ Introduced: 1985 ☐ Cost: $995

☐ **Coax Exchange Plus**
Handles up to ten screen profiles. Accesses concurrently one host session, one PCDOS session and two electronic notepads.
IBM PC ☐ 96 KB req. ☐ Cost: $250

☐ **SNA Exchange**
SNA/SDLC communications. Emulates IBM 3274, 3278/9 with multi-sessioning, 3287 and 3777-1 RJE workstations. Toggles between DOS and 3270 functions.
IBM PC ☐ 192 KB req. ☐ Introduced: 1984 ☐ Cost: $895

INTERACTIVE SYSTEMS CORP. (CA)

☐ **INterm Multi-Terminal Emulator**
Emulates VT100, VT52, Tektronix 4014 and IBM 3101 terminals. Provides bidirectional file transfers. Connects to host via dial-up lines. Controls line/dialing protocols. Stores script or batch files. Supports most popular modems.
IBM PC, XT, AT

☐ **3270 Emulator**
Emulates IBM 3270 terminals, printers and cluster controllers. Provides screen-to-file data capture, multiple concurrent sessions, read-ahead and script directed session control.
IBM RT, AT/AIX, PC/IX

INTERCHART SOFTWARE, INC.

☐ **Talkshow/PC**
Supports emulation of Tektronix graphics terminals, 4027, 4010 and 4100 series, and Hewlett-Packard 7221. Communications, file transfer and off-line recall of mainframe generated charts. Outputs to plotter. Produces electronic slide show. Includes Graphics Master graphics display board.
IBM PC ☐ 256 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $395

INTERCOMPUTER COMMUNICATIONS CORP. (ICC)

☐ **ICC/Text Pack II**
Terminal emulation system.
IBM PC

KEA SYSTEMS, LTD.

☐ **ZSTEMpc - D200**
D200/210 emulator. Serial and parallel support. Bidirectional disk file support includes ASCII and error-free, binary, transparent (Xmodem) transfers. Full macro compatibility limited by memory space. Supports user-configurable modes, speed and flow control.
IBM PC ☐ 128 KB req. ☐ Copies sold: 800 since 1984 ☐ Cost: $125

☐ **ZSTEMpc - VT100**
DEC VT100 emulator with VT102 extensions. Double-high/double-wide characters, 132 column support, smooth scrolling, full VT100 graphics. ASCII, KERMIT and XMODEM file transfers. ISO and attribute mapping color support. DOS access, softkey/MACROS, transparent mode, international and DVORAK keyboard support.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 8,000 since 1984 ☐ Cost: $150

KELLY COMPUTER SYSTEMS, INC.

☐ **ViTalComm**
DEC VT100/VT102 emulation. Includes local printer support, performance to 19.2kbps, PC-to-PC communications, nine pages of display memory, auto login, error reporting and statistics. Provides ASCII, Xmodem and ViTalComm file transfer.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $195

KNIGHT-RIDDER SOFTWARE

(division of Knight-Ridder Newspaper, Inc.)

☐ **Picture Link**
Emulates and enhances upon all graphics modes available on the HP 2648 including zoom and rubber band line with similar resolution.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $400

KRONOS, INC.

☐ **CRT Emulator**
Async terminal emulation. Accesses and downloads clock information, and sends to printer. Some clock data storage on disk. Does not use KRONOS Error-Protected Protocol. Operates with KRONOS System 35 and System 70 Timekeepers.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $180

☐ **Host 35**
Terminal emulator and communications interface. Accesses management reports, stores and prints for hard copy verification. Uses KRONOS Error-Protected Protocol. Accesses information via telephone modems.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $720

☐ **Host 70**
Terminal emulator and communications interface. Allows user to download information to System 70 Timekeeper. Accesses, stores and prints reports. Uses KRONOS Error-Protected Protocol. Can access information via telephone modems.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 150 since 1983 ☐ Cost: $720

LANG-ALLAN, INC.

☐ **Bluestreak**
Provides terminal emulation and communication utilities.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $50

☐ **Bluestreak Plus**
Emulates most terminals including VT 100 and IBM 3101. Allows mainframe command to initiate DOS program/file transfer. Runs programs unattended. Uses C, BASIC or Pascal to integrate user-written programs. Configures setup and phone directory at command line. Multiple comports for simultaneous terminal sessions
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $90

LEGIST AUTOMATION, INC.

☐ **STEP/IV**
Simulates Motorola 4000 or 5000 terminals using IBM PC or compatible or another Series 4000, 5000 system. Supports bi-directional file transfer and remote or local printing. Allows networking among Motorola CPUs optionally.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $500

LOCAL DATA, INC.

☐ **FileLynx/3278**
Interfaces PC with IBM mainframe. Provides file transfer and 3278 emulation. Allows variable number of lines per screen transferred with support for formatted screen applications. Features 4-color emulation.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 1,400 since 1983 ☐ Cost: $200

☐ **FileLynx/5251**
Interfaces PC with IBM S/34, 36, 38. Provides file transfer, 5251 display and 5256 printer emulation. Variable number of lines per screen transferred with support for formatted screen applications. Features 4-color emulation and extended attribute support.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $200

☐ **TruLynx/3270-PC**
Emulates IBM 3270 PC control program file transfer capability. Provides 2-level password protection, session outage notification, start, terminate or suspend. Depends on remote connection status. Allows sessions with VM/SP, MVS/TSO and CICS. Hot-key switching between conversational and PC sessions.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Cost: $300

☐ **TruLynx/5251-PC**
File transfer and terminal emulation for IBM S/34, 36 and 38. Interfaces PC with IBM S/3X. Provides 5251 terminal emulation plus virtual diskette file transfer facilities. Compatible with host FSU and PCSupport/36-38.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $300

MARK OF THE UNICORN, INC.

☐ **PC/InterComm**
Reviewed Sep 1984 p. 46.
IBM PC emulates VT100. Includes 9600 baud throughput, printer support, file transmit to host, incoming data collection, menu-driven set up mode, 25th status line, 30 function keys and named saved set ups.
IBM PC ☐ 64 KB req. ☐ Copies sold: 3,000 since 1982 ☐ Cost: $99

MCS GROUP, INC.

☐ **PC/2200 Terminal Communicator**
Provides 2236 terminal emulation for Wang 2200, file transfer for programs and data between 2200 and PC and communications utility. PCs can operate compiled 2200 programs. Provides remote terminal or telephone modem communications. Supports ANSI/ASCII operation and Xmodem protocols.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 84 since 1985 ☐ Cost: $250

MEGAWEST SYSTEMS, INC.

☐ **MegaLink**
Allows interface of RJE devices such as MSI/77 to a Microdata system.
IBM PC, XT ☐ 32 KB req. ☐ Copies sold: 2 since 1980 ☐ Cost: $1,200

MICRO-INTEGRATION CORP.

IE Systems Divisions

☐ **Acculink-Micro**
Allows file transfer between micros and mainframes, minis or other micros. Supports 3 protocols, 7-bit VANs, macro, phone and modem. Printer, disk and file utilities. Emulates VT102, VT100, VT52, IBM 3101, ADM3A and TVI 950.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10,000 since 1979 ☐ Cost: $245

☐ **BIS-3270**
Emulates BSC 3270 control unit with keyboard/display and printer separately addressable or local print key. Features diagnostic tools, send through current 3270 screen format, full status line, configuration program and 10 international keyboards.
IBM PC ☐ 128 KB req. ☐ Copies sold: 40,000 since 1980 ☐ Cost: $695

☐ **BIS-3780**
Provides translation, transparency/nontransparency, data stream management for IBM 3780, 2780, 2770, 3741 RJE workstation or micro to micro. Features console commands at startup or interactively, path name, diagnostics and on-line statistics. Configuration program includes carriage control and 10 international keyboards.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10,000 since 1979 ☐ Cost: $695

☐ **BIS-7705**
Provides translation, polling responses, Honeywell BSC protocol management, screen formatting and time out control for Honeywell VIP 7705 terminal emulation. Includes configuration program, SEND file, help, status line and diagnostics.
IBM PC ☐ 128 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $695

☐ **Coaxxsys**
Allows bus-based micros to emulate IBM 3278 display stations using coaxial networks. Permits micro to plug into IBM 3274 or 3276 control units, BSC or SNA. Includes Hot key VM/CMS and TSO file transfer facility. Supports 10 international keyboards.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2,000 since 1982 ☐ Cost: $995

☐ **Micro-SNA/3270**
Emulates SNA 3274 or 3276 control unit with attached keyboard/display and printer, LU or local print. Automatic restart after disconnect. Features diagnostic tools, send through 3270 screen format, full status line and configuration program including color, 10 international keyboards and NRZ/NRZI.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $695

☐ **Twinaxis**
Emulates up to 4 5250 LU devices including 4 displays or 3 displays and printer. Full printer support. S/36 file transfer facility and virtual disk support. Features hot button, device status reporting and diagnostics. Menu-driven configuration program.
IBM PC ☐ 128 KB req. ☐ Copies sold: 4,000 since 1985 ☐ $895

MICRO SOLUTIONS, INC. (IL)

☐ **UniDOS**
Runs 8-bit CP/M programs on PC. Emulates Z80 microprocessor.
IBM PC ☐ Cost: $70

MICROPLOT SYSTEMS

☐ **PC-Plot III**
Accesses mainframe graphics packages requiring Tektronix 4010 Graphics or DEC VT100 commands. Displays, saves, prints or plots results. Features auto dial, auto logon and file transfer capabilities.
IBM PC ☐ 128 KB req. ☐ Copies sold: 12,500 since 1983 ☐ Cost: $95

MICROSTAR SOFTWARE, LTD.

☐ **MVDI-C Communicating Decoder**
NAPLPS videotex terminal emulator. Accesses text services. ASCII terminal emulation is 80 columns. Stores phone numbers and sign-on sequences in directory. Reproduces NAPLPS text and graphics at resolutions of up to 16,384x16,384 picture elements.
IBM PC

MICROSTUF, INC.

☐ **Crosstalk XVI**
Reviewed Jul 1984 p. 90; Sep 1984 p. 46.
Supports Crosstalk, Xmodem and Kermit file transfers. Terminal emulation of TeleVideo 910/920, IBM 3101 ASCII, ADDS Viewpoint, DEC VT-100, VT-52 and TI 940. Provides on-line help, supports auto-dial/auto-answer modems. Network version available.
IBM PC, XT, AT ☐ 96 KB req. ☐ Copies sold: 500,000 ☐ $195

MICROTEC RESEARCH, INC.

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☐ **Terminal Emulator**
Features local file storage, capability for setting up command files, VT52/100/101/102 emulation, multiple setup files, ASCII or binary file transfer between PC and host Kermit protocol compatibility.
IBM PC

MYCROFT LABS, INC.

☐ **Maxi-Mite +**
Module for Mycroft's MITE emulates many terminals. Selects desired terminal from menu options list. Saves terminal selection, phone number and parameters for recall.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 2,000 since 1985 ☐ Cost: $220

☐ **Mite/MAC**
Turns a microcomputer into an intelligent terminal. Accesses any async ASCII on-line system or exchanges any file. Allows error recovery. Password protection.
IBM PC, XT ☐ 64 KB req.

NCR CORP.

☐ **7900 Terminal Emulator**
Enables NCR Decision Mate V PC to look like non-intelligent Model I Terminal. Permits file transfer between DMV and host. Allows user to have one machine perform functions of two. Reestablishes stored configuration as current and saves into file.
IBM PC ☐ 64 KB req.

NESTAR SYSTEMS, INC.

☐ **IBM SNA Gateway**
IBM PC emulates remote IBM 3274 supporting up to 16 user
IBM PC ☐ 64 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $3,000

☐ **3270 Emulator**
Provides network connections to IBM 3270 mainframe for PLAN Series (Arcnet) users. Server station communicates with network workstations. Allows PCs to act as IBM 3278 display stations.
IBM AT ☐ 64 KB req. ☐ Introduced: 1983

NETWORK SOFTWARE ASSOCIATES, INC.

☐ **AdaptBSC 3270**
Interactive communications between micro and IBM mainframe, using IBM 3270 Bisync protocol. Emulates 3274. Application interface allows customization for existing host terminal applications. Hot button feature allows simultaneous program execution on PC and dialogue with host application program.
IBM PC, AT, XT ☐ 192 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $475

☐ **AdaptSNA PCcom**
Provides communications and file transfer capabilities among IBM PC using IBM SDLC protocol. Can be used in network control centers for software maintenance and distribution.
IBM PC, AT, XT ☐ 128 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $475

☐ **AdaptSNA 3270**
Interactive communications between micro and IBM mainframe using IBM 3270 SNA/SDLC protocol. Emulates 3274. Direct print sessions run concurrently with terminal emulation using DSC and SCS data streams. Hot button allows simultaneous PC program execution and mainframing session. Allows customizations.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $585

THE OPUS CORP.

☐ **WS250 Emulator**
Allows IBM PC, HP 150 or compatible to emulate HP 2622D workstation for HP 250/260. Includes file transfer, direct ASCII mode and drives locally connected printers.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $395

PACKAGED SOLUTIONS, INC.

☐ **BiComm-3270**
MSDOS computers emulate 3271, 3274, 3275 and 3277 terminals with 3284 or 3286 printers. On-line configuration procedure, optional print-to-disk simulation, visual attribute support, local print option, switched or leased line operation and 25th status line.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $895

☐ **BiComM-3700**
Bisync RJE station emulator. Interactive or unattended batch mode operation. Duplicates functions of 2780, 3780, 2770 or 3741 RJE station. Communicates to 19.2k or 9,600 baud. Space compression, printer horizontal format option, transparent data, auto answer and printer initialization code.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 2,025 since 1981 ☐ Cost: $895

PARATECH, INC.

☐ **Tele-Tek**
Emulates Tektronix 4010 series graphics terminal. Features file transfer, local hardcopy capabilities, four-page scroll buffer and log-to-printer.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $99

PATHWAY DESIGN, INC.

☐ **netPATH SNA-3270, SNA-3770**
Allows multiple IBM PCs on LAN to operate on IBM SNA networks. Emulates 3274/76 Control unit. PC shares host communication features. Includes data conversion between host and LAN, session hold, data redirection and programmatic interfaces.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $1,995-$3,995

☐ **pcPATH BSC-2780/3780 (BSC-RJE)**
Allows IBM PC and compatibles remote operation on IBM BSC networks through 2780/3780 RJE station emulation.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $595

☐ **pcPATH BSC-3270**
Allows IBM PC and compatibles remote operation on IBM BSC networks through 3270 emulation. PC appears as 3270 Control Unit with attached devices to host. Supports up to 5 concurrent host communication sessions. User can hot key from any emulation sessions to/from a local DOS application.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $595

☐ **pcPATH SNA-3270**
PC appears as 3270 Control Unit with attached devices to host. Supports up to 5 concurrent host communication sessions. User can hot key to/from any emulation sessions and a DOS application.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $595

☐ **pcPATH SNA-3770**
Allows IBM PC and compatibles remote operation on IBM SNA networks through 3770 RJE station emulation. Supports up to six host communication sessions and unattended operation through enhanced command file language.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $595

PBL ASSOCIATES

☐ **Micro-Tap**
Conversational mode terminal emulation. Transfers pre-selected data and file between Tandem computers and micros. File transfer with unlimited record length. Includes error checking, Tandem's networking abilities and remote dial-up capability.
IBM PC ☐ Copies sold: 10 since 1984

PCX

☐ **Linkup**
Terminal emulation and bi-directional file transfer for remote CP/M system.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,000 since 1982 ☐ Cost: $50

PERSOFT, INC. (WI)

☐ **SmarTerm 100**
Reviewed Sep 1984 p. 46.
Emulates DEC VT-100, 101, 102 and 52. Defines eight setup configurations and smart softkeys. Allows ASCII and binary file transfer. Transmits/receives using PDIP protocol. Supports TTY mode. Hot key allows branch to DOS. Xmodem protocol and 132 column display.
IBM PC, AT, XT ☐ 192 KB req. ☐ Copies sold: 30,000 since 1982 ☐ Cost: $149

☐ **SmarTerm 220**
Emulates DEC VT220, 100, 102 or 52. ASCII and binary file transfer. Includes remappable keyboard layout, multi-national character sets, and selective erase. Supports 7- and 8-bit control modes. Supports Kermit.
IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 3,700 since 1985 ☐ Cost: $195

☐ **SmarTerm 240**
Uses PC as graphics terminal to connect to CAD/CAM mainframe graphics. Emulates DEC VT240, VT125, VT220, VT100, VT102 or VT52 intelligent text terminal, Tektronix 4014 and DEC ReGIS graphics. Includes pop-up windows, branch to DOS, startup command files, host control and remappable keyboard layout. ASCII and binary file transfer. Supports Kermit.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 2,237 ☐ Cost: $295

☐ **SmarTerm 400**
Emulates DG D100, D200, D210, D211, D400 or D410. Multiple display windows with independent vertical scrolling and window erase. Handles margin settings greater than current screen. ASCII and binary file transfer. Supports PDIP and Xmodem protocols. TTY mode accesses timesharing services.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 8,650 since 1983 ☐ Cost: $149

POINT 4 DATA CORP.

☐ **PC Connection**
Allows PC to be operated as Point 4 IRIS-type terminal. Transmits data files including programs between PC and host IRIS system. Provides large-capacity, mass-storage facilities for programs and data. Provides centralized control and security.
IBM PC ☐ 64 KB req. ☐ Copies sold: 70 since 1984 ☐ Cost: $550

POLYGON, INC.

☐ **poly-BSC/RJE**
Emulation for IBM RJE stations. Provides access to inquiry, data entry, program development. Directs printed output to printer or disk, sends/receives text files without software on other system. Communication via BSC protocol using sync ports and modems at 9600 baud.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 2,500 since 1983 ☐ Cost: $500

☐ **poly-BSC/3270**
PC emulates IBM 3270 sync terminal and printer. Keyboard includes alphanumeric, special attention identifier and cursor control keys. Data sent to printer or disk. Screen images recorded on printer or file.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $500

☐ **poly-COM/220**
Emulates DEC VT52, VT100, VT102 or VT220 terminal. Transfers files between PCs and another PC, minicomputer or mainframe. Includes 132-column on-screen display.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 10,000 since 1985 ☐ Cost: $200

☐ **poly-COM/240**
ReGIS graphics commands emulation and file transfer. Emulation of DEC VT52, 102, 125, 220 and 240. Accesses DEC's Datatrieve, DECslide and DECgraph, ISSCO's DISSPLA and TELL-A-GRAF, BB and N's RS-1 and SAS Institute's SAS/GRAPH. Supports IBM graphics printers and EGA (Enhanced Graphics Adapter).
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 10,000 since 1985 ☐ Cost: $300

☐ **poly-ReGIS**
ReGIS graphics commands emulation.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $165

☐ **poly-TRM/VT**
ASCII terminal emulation to mainframe. PC used as DEC VT102 OR VT52 video terminal. Supports printer attached to PC, menu setup screens and standard async lines and ports at 9600 baud.
IBM PC, PCjr, XT, AT ☐ 64 KB req. ☐ Copies sold: 50,000 since 1981 ☐ Cost: $150

POLYTRON CORP.

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☐ **PolyWindows Talk**
Memory-resident telecommunications and terminal emulation with background operations capability. Operates using scripts. Emulates VT100 terminal. Utilizes existing Crosstalk script files. Requires PolyWindows DeskPlus.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1986 ☐ $79

☐ **PowerCom**
Exchanges files with different computers and networks. Uses Xmodem, Ymodem, X.PC, Kermit and other protocols. Emulates DEC VT100, VT52, VT102, Heath/Zenith H19, Z19 and Lear Siegler ADM-3A terminals. Receives data from 3 remote computers simultaneously. Optional password protection and data encryption facilities.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $179

PRIME COMPUTER, INC.

☐ **PRIMELINK**
Connects IBM and compatible PCs to Prime 50 Series systems. Provides PT200 terminal emulation. Performs file transfer and allows users to store and access PC files on host in PC format through virtual disk capability. Transfers documents created by MultiMate to Prime's OAS for distribution and editing.
IBM PC, XT, AT ☐ Cost: $60 per PC

PROTOCOL COMPUTERS, INC.

☐ PCIterm

Enables PC to communicate with IBM mainframe or S/34, 36, or 38. Provides uploading and downloading of files via direct or dial-up link without host suport, virtual memory screen buffer facility, user definable windows and auto dial and key-in.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 1,200 since 1984 ☐ Cost: $195

QUADRAM

(subsidiary of Intelligent Systems Corp.)

☐ Quad 5251

Reviewed Jul 1986 p. 76.

Permits communications between PC and S/34, 36, 38.

IBM PC, XT, AT, Portable PC ☐ 128 KB req. ☐ Cost: $995

☐ Quadlink

Allows Apple II and II Plus programs on IBM PC, XT and PC compatibles. Use of printers and buffers. Features Apple/IBM compatible game port for entertainment options.

IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $495

RATIONAL DATA SYSTEMS, INC.

☐ Popterm/200

Memory-resident DG D200 terminal emulator. Accesses DG's 32-bit AOS/VS environment. Utilities include Popgen which establishes communications parameters for sessions with various hosts and on-line file capture/transmit.

IBM PC ☐ 60 KB req. ☐ Copies sold: 75 since 1985 ☐ Cost: $150

REAL-TIME COMPUTER SCIENCE CORP. (RTCS)

☐ iSIM85

ISIS-II 8085 simulator. Allows execution of Intel 8-bit compilers, assemblers and utilities. Converts PC to software development station for Intel processors.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $500

REALIA, INC.

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☐ Termulator

Emulates DEC VT100 terminal. PC color and character graphics capabilities. Uses COM1 or COM2 communications port, at speeds up to 9600 baud. Uploads/downloads files, using Modem-2 protocol, with error detection and recovery. Corresponding receive/transmit utilities. VT52 escape code sequence recognition.

IBM PC, XT, AT, PCjr, 3270-PC ☐ 64 KB req. ☐ Copies sold: 1,200 since 1982 ☐ Cost: $95

RECOGNITION EQUIPMENT, INC.

☐ Tartan Link

Allows IBM PCs and PC compatibles to emulate Tartan terminals and connect to Tartan network, sharing data between MS-DOS PC applications and Tartan data entry, word processing, and data communications.

IBM PC ☐ 128 KB req. ☐ Copies sold: 20 since 1984 ☐ Cost: $1,750

RENEX CORP.

☐ R-Link

Enables IBM PC to emulate an ASCII terminal for connection to IBM 3270 or 5251 systems. Supports file transfer.

IBM PC ☐ 64 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $150

☐ RAP

Enables IBM PC to emulate IBM terminals and accept binary files from host. RAP transfers data in packets in end-to-end transmissions or public data networks. Eliminates echo delay. Provides error transmission.

IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1984

REXON BUSINESS MACHINES CORP.

(subsidiary of Rexon, Inc.)

☐ RTE (Rexon Terminal Emulator)

Allows PC to act as terminal on RECAP-based local or remote Rexon system. Emulates most functions of Rexon 303 and 306 terminals.

IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1985

RHINTEK, INC.

☐ EMU

Emulates Data General's DASHER terminals. Operates full and half duplex, 50-9600 baud. Data overrun prevention of files. Uses COM1 or COM2 port. Honors Xon/Xoff protocol in file output mode. Can be used as line monitor. Displays last 1000 characters.

IBM PC, XT, PCjr ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $115

THE SANTA CRUZ OPERATION, INC. (SCO)

☐ uniPATH SNA

Allow UNIX system based computers to operate on IBM SNA networks through 3270 and 3770 emulation. Appears to host system as IBM 3270 communications controller or 3770 RJE station. Runs as background process maintaining communications line for immediate, on-demand access to host system.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985

SAS INSTITUTE, INC. (NC)

☐ SAS/RTerm Software

Remote communications system. Emulates DEC VT100 terminal and Tektronix 4100 graphics commands. Supports Tektronix 4695 inkjet and IBM PC graphics printers and HP 7470, 7475, 7550 and ColorPro plotters.

IBM PC, 3270-PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 71 since 1985

SCIENTIFIC ENDEAVORS CORP.

☐ VTEK

Emulates DEC VT100, VT102, VT52 and Tektronix 4010/4014. Includes PLOT-10, cross hairs, user-defined keys, duplex, short/long breaks, printer output, ASCII and binary transfer, zoom and shift plots, traffic line monitor mode, 4014 enhanced graphics and VT100 numeric keypad.

IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $150

SIMWARE, INC.

☐ SIM3278/PC

Allows an IBM PC to work with SIM3278/VM or SIM3278/VTAM and function as an IBM 3278 Model 2. Uploads and downloads files. Emulates mainframe style printing on a PC attached printer. Includes an intelligent command file processor that can be customized as user requires.

IBM PC ☐ 192 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $250

SOFTEL, INC.

☐ PC52

Enables PC to function as intelligent terminal. Accesses UNIX mini-computer over standard RS-232 async communications link at transmission rates up to 56KB. Supports screen editing and up to 25 line display for 20 line spreadsheet and 16 color hi res graphics.

IBM PC ☐ 128 KB req. ☐ Copies sold: 2,500 since 1985 ☐ Cost: $140

SOFTRONICS, INC.

☐ Softerm PC

Communications and terminal emulation. Provides exact emulation of 30 terminals including support of conversational and block modes. Provides concurrent operation, file transfers, execution using command files and text editor. Includes data formatting utility that translates downloaded text files.

IBM PC ☐ 128 KB req. ☐ Copies sold: 8,000 since 1984 ☐ Cost: $195

SOFTWARE SOLUTIONS, INC. (CT)

☐ SYNCH 2780/3780

OEM product. Emulates RJE station to communicate with computers supporting IBM 2780, 3780 or 2770 protocols. Using bisync communications protocol, micro and mainframe exchanges messages from keyboard or disk file. Operates as point-to-point and supports transparency, reverse interrupts.

IBM PC ☐ 48 KB req. ☐ Introduced: 1979 ☐ Cost: $500

SOFTWARE SYNERGY, INC.

☐ Respond/All

Async terminal emulation of DEC VT102/100/52, IBM 3101, HP 2621B and TTY and choice of sync terminal emulators including 3270 SNA Remote, 3270 Local, 3270 BSC, 3270 Gateway, 2780/3780 RJE, 5251/12 Remote, 5251/11 Local. Text/binary transfer with error-checking protocols. Unattended mode with remote unattended file transfer.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $945-$1,640

☐ Respond/Async

Async emulation of DEC VT100 and VT52, IBM 3101, HP 2621B, and TTY. Features RESPOND architecture, menu-driven user interface, text and binary file transfer with error-checking protocols, dialogue support, unattended operation, user-defined and XPRESS keys.

IBM PC ☐ 256 KB req. ☐ Cost: $195

☐ Respond/HP 2622A

Emulates HP 2622A terminal to connect to host systems. Transfers data in block/page or block/line modes. Labels user keys. Video enhancements that enable characters to be printed on screen in inverse video, bold face type, blinking or underlined. Includes TTY and other emulators.

IBM PC ☐ 256 KB req.

☐ Respond/Secure Async

Protects async communications. Option for RESPOND/Async. Supports secure session establishment and encrypted file transmission between PC and async host that has similar security features implemented.

IBM PC ☐ 256 KB req. ☐ Cost: $895

☐ Respond/Sync

Sync terminal emulation for 3270 SNA Remote, 3270 Local, 3270 BSC Remote, 3270 Gateway, 2780/3780 RJE, 5251/12 Remote, 5251/11 Local. Provides communication and text and binary file transfer with error-checking protocols between IBM PC or compatibles and micros, minis and mainframes. RESPOND architecture, quick start and menu-driven user interface.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $695-$4,495

☐ Respond/TTY

TTY terminal emulation. Connects PCs to information services, micros, minis and mainframes. RESPOND architecture, quick start, menu-driven user interface, text/binary file transfer with error-checking protocols, dialogue support, unattended mode for remote unattended file transfer, user-defined keys and xpress keys.

IBM PC ☐ 256 KB req. ☐ Cost: $125

☐ Respond/2780/3780 RJE

Transmits/receives files by emulating IBM 2780/3780 RJE terminal. Micro-mainframe transfers. Error checking/correcting techniques with CRC-16, ACK0/ACK1, and other user-defined line control parameters. Provides job file support for arranging batch operations or executing communications transactions.

IBM PC ☐ 256 KB req. ☐ Cost: $795

☐ Respond/3270 Gateway

Allows PC in LAN to communicate synchronously with IBM mainframe through modem. Emulates 3274 while other PCs emulate 3278 remote terminals. Disk drives can emulate 3287 printers, allowing file transfer without any customer-host interface. Supports up to 32 mainframe sessions.

IBM PC ☐ 256 KB req.

☐ **Respond/3270 Local (Coax)**
Emulates IBM 3278 Model 2, 3, or 4 or 3279 Model 2A, 3A terminal. Connects IBM 3274 or 3276 cluster controller or IBM 4321/4331/4361 display/printer adapter using coaxial cable. Control program operates in resident or transient mode.
IBM PC ☐ 256 KB req. ☐ Cost: $995

☐ **Respond/5251/11 Local (Twinax)**
Links PC to IBM S/34/36/38 as direct replacement for 5251 Model 11 terminal. Toggles between DOS and 5251 mode. Drives up to 2 printers as System 3X printers. Emulates up to 4 workstations. TTY emulation for async communications.
IBM PC ☐ 256 KB req.

SOLUTION SYSTEMS

☐ **ZAP**
Emulation for DEC VT52/VT100/VT102 and Tektronix 4010. Async communications. Supports raw text, Xmodem, kermit file transfer, string to any key, automatic redial, unattended operation, optional dump toggle mode, four-boundary scrolling, variable-size graphics characters, XON/XOFF support.
IBM PC ☐ 128 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $85-$950

SOURCEVIEW SOFTWARE INTERNATIONAL

☐ **Interactive Terminal**
Receives PC keyboard character and control codes, of which most go to host computer for processing. Monitors communications line and displays data transmitted from host computer.
IBM PC ☐ Cost: $99

SPERRY CORP.

Information Systems Group

☐ **PC SNA and Bisynchronous Connectivity**
Allows Sperry PCs to access IBM's SNA, via 3270 interactive or 3770 remote batch terminal emulation.
IBM PC

☐ **PCWorks and Unihost**
Links Sperry PC with Sperry 5000 or 7000 systems for data file transfer, mail and message send/receive and report printing.
IBM PC

☐ **Series 5000 Uniscope Emulation**
Sperry no. 7776-01; 7777-01. Enables Sperry SVT 1210 or SVT 1220 terminals or Sperry PC to communicate with Sperry 1100 hosts operating in Uniscope environment. Sperry MAPPER, TIP and Demand compatible.
IBM PC

☐ **STEP (Sperry Terminal Emulation Package)**
Transforms Sperry PC into multi-function editing terminal capable of running 8 host sessions concurrently. Emulates Sperry UTS 20, 30, 40 or 60 and DEC VT 52/100/102 terminals.
IBM PC

STERLING SOFTWARE

System Software Marketing Division

☐ **PC-TRACS**
2780/3780 terminal emulator. Enables IBM PC or board compatible micro to perform bisync file transfer to/from PC-compatible micro, mini or mainframe. Includes RJE host emulation, send/receive records, data compression/decompression, and multiple file transfer/receive capabilities.
IBM PC ☐ 64 KB req. ☐ Copies sold: 250 since 1983 ☐ Cost: $150-$1,780

STOCHOS, INC.

☐ **Microdyn**
Module to maintain files describing various aspects of system dynamics simulation model.
IBM PC ☐ 64 KB req. ☐ Copies sold: 4 since 1982 ☐ Cost: $300

STRAIGHTFORWARD

☐ **Fortyone**
Emulates HP41CV calculator. Programs and debugs HP 41 RPN code. Runs most HP 41 programs without alteration. Programming capabilities include alphanumerics, loops and conditionals, and advance trig functions.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 200 since 1986 ☐ Cost: $100-$115

SUNBELT COMPUTER SYSTEMS, INC.

☐ **TERM82M (82XX Terminal Emulator for MS-DOS)**
Emulates Datapoint's 82XX and 36XX terminals. Enables two-way transfer of ASCII text files by micro and Datapoint's mini. Supports Datapoint's DOS Datashare, RMS Workstation and RMS Datastation.
IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $395

SYDNEY DEVELOPMENT CORP.

☐ **Sydcom 3270 SNA/SDLC**
Emulates IBM 3274, 3278, 3287 and PU TYPE 2 to ASCII conversion.
IBM PC ☐ Cost: $150,000

SYNTAX SYSTEMS, INC.

☐ **VIM VirtualTerminal**
Allows PC to function like VT100 terminal with 80 columns and 24 lines. Logs in to VAX and executes VAX-resident text editors and other processes. If VAX is part of DECnet network, user can access other computers on DECnet as network virtual terminal.
IBM PC ☐ Copies sold: 75 since 1985 ☐ Cost: $500

SYNTREX, INC.

☐ **IBM PC Connection**
Turns an IBM PC into a Syntrex workstation for connection to file servers in a network situation.
IBM PC, XT ☐ 384 KB req. ☐ Introduced: 1984 ☐ Cost: $600-$900

TANDEM COMPUTERS, INC.

☐ **PC Link**
Links IBM and other MS-DOS micros to Tandem hosts. Emulates Tandem 653X and IBM 327X terminals. Includes PCFORMAT for conversion of Encompass data files to DIF, SYLK, BASIC or ASCII formats. Sends and receives messages via PS Mail.
IBM PC ☐ Cost: $495

TECHLAND SYSTEMS, INC.

(subsidiary of York Research Corp.)

☐ **BlueLynx 2780/3780 Remote Job Entry (BSC)**
Emulates 2780/3780 terminal using BSC. Features Procedure Command Language, which sets up series of commands to send and receive files, branch to other PCL files and exit from emulation mode without operator intervention. Built-in error correcting on both mainframe and PC slide.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1985

☐ **BlueLynx 3270 Advanced COAX**
Reviewed Apr 1986 p. 189.
Emulates an IBM 3278 model 2, 3 or 4 monochrome display station or an IBM 3279 model 2A, 3A or 3B color display station. Features built-in macro language which provides data capture, file transfer or logging on to host or PC applications without adding any new host software.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985

☐ **BlueLynx 3270 Remote & Local and BlueLynx 5251 Remote & Local (Twinax)**
3270 SNA/SDLC remote and local workstation emulator for PC and 5251 Model 12 and 11 emulator. PC, AT or XT acts as standalone distributed processor, on-line terminal.
IBM PC, XT, AT ☐ 23 KB req. ☐ Copies sold: 12,000 since 1982 ☐ Cost: $745-$945

☐ **BlueLynx 5251/11 Local**
Reviewed Jul 1986 p. 76.
Emulates a single 5251/11 terminal with a DOS session on a PC
IBM PC, XT, AT ☐ Introduced: 1985

☐ **VTERM 2**
Async communication and DEC VT100, VT52 emulation. Runs full screen, keypad oriented software like EDT, TECO, WORD11 and EMACS. Accesses data services. Turns PC into intelligent TELEX using services like Western Union's EASYLINK and allows off-line TELEX preparation.
IBM PC, XT, PCjr, AT ☐ 64 KB req. ☐ Copies sold: 3,000 since 1982 ☐ Cost: $160

TECHNOLOGICAL SYSTEMS GROUP, INC.

☐ **TEPRO 4010**
Tektronix 4010 emulation with Hercules or IBM Graphics Cards. Full interactive capabilities, off-line review and hard copy to matrix printers.
IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $80

TELEXPRESS, INC.

☐ **Teleterm EM**
Async communications through RS-232C over telephone lines, protocol converter or direct wire. Emulates a number of host terminals. Telecommunications with comprehensive file upload/download capabilities. Block transfer modes, X-modem and proprietary protocols. Full screen on-line/off-line text editor.
IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Copies sold: 5,000 since 1981 ☐ Cost: $195-$225

TEXAS INSTRUMENTS

☐ **3101 Communications**
Emulates IBM 3101 Display terminal. Applicable for data entered into forms or fields set by host or for two computer interaction. Dial-up or leased line. Usable with remote computer applications for process control inventory, OE, computer based and operator training.
IBM PC ☐ 128 KB req. ☐ Cost: $140

☐ **3270 Coax Interface**
Accesses IBM host computer data bases. Allows TI computers to emulate IBM 3278 and 3279 display terminals. Downloads mainframe-stored data for local manipulation and storage.
IBM PC ☐ 64-128 KB req. ☐ Cost: $1,195

☐ **3270 SNA Communications**
Accesses SNA host computer as 3270-type terminal. Emulates IBM 3276/12 Cluster Control Unit with single 3278/2 printer. Supports Multiple LU (SLU Type 2 and 3 or Type 1).
IBM PC ☐ 128 KB req. ☐ Cost: $350

☐ **3780 Communications**
Allows TI Professional communication with others. Transfers data synchronously. Attended or unattended data file transfers provide error detection and recovery.
IBM PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $150

☐ **931 Emulator**
Emulates TI 931, communicates with Business System Series 300, 600 or 800 via direct, switched or dedicated link. Text and binary file transfer using DX10 or DNOS commands. Parallel or serial printer emulation, 300 to 19,200 bps and 911/931 keyboard mode.
IBM PC ☐ 128 KB req. ☐ Cost: $150

THETA SCIENTIFIC, INC.

☐ **ET200**
DG D200 terminal emulator for IBM PC and DEC Rainbow. Accommodates RDOS, AOS and AOS/VS. Allows pausing the screen without losing data. Data sent to screen may be sent to printer or captured on diskette. Integrated file transfer sends PC file with SSI's TranSSit. Compatible with DG's CEO and SSI's WordPerfect.
IBM PC, XT, AT, 3270-PC ☐ 128 KB req. ☐ Copies sold: 250 since 1983 ☐ Cost: $150

3COM CORP.

☐ 3+3270
Allows PC attached to network to access IBM mainframe emulating 3278/3279 terminal.
IBM PC, XT, AT ☐ Introduced: 1986

TITN, INC.

☐ Twice DSP3270
Allows UNIX systems emulation of IBM 3274, 3271 and 3275 controllers via an X.25 PSDN. Permits printer connected to UNIX system to emulate IBM 3284, 3286, 3287 or 3288 printer.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2 since 1985 ☐ Cost: $40,000 and up

☐ Twice XPAD DSP2780/3780
Allows UNIX systems to emulate BSC IBM 2780 or 3780 batch transmission terminals. User-defined parameters for communications line. Originates or answers calls. Sends mail to user whether or not transmission is successful.
IBM PC ☐ 128 KB req. ☐ Copies sold: 3 since 1985

TORUS SYSTEMS, INC.

☐ AGS (Advanced Gateway Support)
Extends Tapestry network's async communications to provide VT100 emulation. Supports Bridge CS devices for Tapestry networks running on 3Com hardware.
IBM PC, XT, AT ☐ Introduced: 1986 ☐ Cost: $795

TRANSMIT COMMUNICATIONS AND INTELLIGENT TERMINAL SOFTWARE

☐ Communications Software and Intelligent Terminal Software
Provides VT/100 and ADM3 emulation, micro-to-micro or micro-to-mini communications. Automated process control uses prompted English statements. X-Modem protocol, electronic mailbox, auto modem, auto-redial, unattended process control, on-line buffer capture toggle, 40-entry telephone directory with automatic configuration loading, and true break signal. Emulates Honeywell 7809.
IBM PC ☐ 192 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $70

TRISYSTEMS CORP.

☐ TC-3274
Emulates 3274 Terminal Controller in supporting remote PC workstations using SNA/SDLC.
IBM PC, XT, AT

☐ TC-3780/2780
Emulates IBM 3780 RJE workstation. A full emulation of IBM 2780 RJE workstation provided.
IBM PC ☐ 40 KB req.

TURNBULL AUTOMATION, INC.

☐ UPLUS
Allows PC to emulate Sperry U100, U200 or UTSXX with IBM 327X, 2780, 3780 emulation optional. Includes line trace buffer facility and help facility. Supports up to 16 displays file transfer. Screens can be labeled. Keyboard macro capability.
IBM PC ☐ 256 KB req. ☐ Copies sold: 125 since 1984 ☐ Cost: $250-$655

TYMLABS CORP.

☐ PCAccess
Allows IBM PC to emulate HP 2621 display terminal.
IBM PC ☐ Cost: $50

TYMNET, MCDONNELL DOUGLAS NETWORK SYSTEMS CO.

(subsidiary of McDonnell Douglas)

☐ SmarTym 3270
Provides PC access to Tymnet's Async-to-3270 Service. Accesses 3270 host applications. Incorporates X.PC async communications protocol. Allows attached printer to emulate IBM 328X printer. User can redirect print streams to disk file. Provides error correction.
IBM PC ☐ Cost: $175

VICTOR TECHNOLOGIES, INC.

☐ Async
Terminal emulation which allows async communications between a Victor 9000 computer and another computer facility. Includes ASCII file transfer capabilities.
IBM PC ☐ 128 KB req. ☐ Cost: $195

☐ Bisync-86/3780
Emulates IBM RJE products, supporting BSC protocol over range of 1200 to 9600 baud.
IBM PC ☐ 128 KB req. ☐ Cost: $495

☐ TD830 Emulator
Facilities include TD830/MT983 80 by 24 display with TD830 attributes, up to six pages of display, disk storage of screen formats, configurable via a parameter file, auxiliary local printer support, auto TD830 keyboard reconfiguration, and built-in line monitor facility.
IBM PC ☐ 128 KB req. ☐ Cost: $495

☐ 3270 Bisync
Allows communication with mainframe using IBM BSC protocol. Emulates 3271 controller and 3277 display, 3275 display (polled and contention), 3284 or 3286 printer, and operating over range of 1200 to 9600 baud.
IBM PC ☐ Cost: $595

☐ 3276 SNA/SDLC Emulator
Supports 3287 Model 2 printers with 80 X 25 display. Hi-lo intensity. Non-display attributes, automatic or menu-driven configuration supported.
IBM PC ☐ 128 KB req. ☐ Cost: $695

☐ 3278 COAX Emulator
Supports 80 X 24 or 132 X 27 with 25th or 28th line status display. Memory-maintained screen buffer. Auxiliary local printer support, auto 3278 style keyboard reconfiguration and diagnostics.
IBM PC ☐ 128 KB req.

WALKER RICHER AND QUINN, INC.

☐ Reflection Series
Full HP 2392, DEC VT-220, and HP 2623 graphics terminal emulation. Error-free file transfer to/from HP 3000s and VAX under VMS or UNIX. Supports serial and parallel printers and color on IBM PC. Includes command language, terminal memory, horizontal scrolling to 1000 columns.
IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Copies sold: 25,000 since 1983 ☐ Cost: $199-$449

WANG LABORATORIES, INC.

☐ Burroughs Terminal Emulation
Supports 1,920 character screen, document status line, local printer support, async and sync communications and up to three Burroughs hosts and 16 concurrent communication sessions. Background printing sent to host-addressable PC printer, concurrent with TD/MT terminal emulation.
IBM PC ☐ Introduced: 1984

☐ CP/M-80 Emulation Software
Allows PC with Local Communications Option Card to access optional OS, CP/M-80 application programs, and languages without committing chassis expansion slot to Wang's CP/M Emulator Card.
IBM PC ☐ 256 KB req. ☐ Cost: $240

☐ PC Graphics Workstation Emulation
Enables a Wang Professional to function as a graphics workstation attached to a Wang VS, OIS or Alliance system.
IBM PC ☐ Cost: $200

☐ PC 2780/3780/WPS Option
IBM PC ☐ Cost: $200

☐ PC 3276 SNA/SDLC Emulation
IBM PC ☐ Cost: $400

☐ PC 3276/3275 BSC
IBM PC ☐ Cost: $400

☐ PC 3278 Emulation
IBM PC ☐ Cost: $240

☐ VT-100 Emulation
Provides communication between Wang Professional and DEC host. Emulates VT-52 and VT-100.
IBM PC ☐ 128 KB req. ☐ Cost: $200

WESTERN WARES

☐ ISE - ISIS Emulator
Imitates ISIS-II system calls for testing ISIS programs under CP/M. Paged memory version emulates 64kb ISIS configuration. Supports emulation of Intel ROM monitor entry points. Functions implemented with standard BDOS calls.
IBM PC ☐ 80 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $89

WINTERHALTER, INC.

☐ DataTalker 3270 BSC
Turns micro into remote IBM 3270 interactive bisync terminal. Up to 8 users can share modem, 3705 port and terminal emulator. Features batch key, applications program interface, CalcTran and QuicKScreen. Requires DataTalker PC Plus, DataTalker II or DataTalker PC-8.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $695-$2,395

☐ DataTalker 3270 SNA
Allows microcomputer to emulate remote IBM 3270 SNA interactive terminal. Up to 8 users can share 1 modem, 3705 port and terminal emulator. Features batch key, applications program interface, CalcTran and QuickScreen. Secures data. Requires DataTalker PC Plus, DataTalker II, DataTalker PC or DataTalker PC-8.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $695-$2,395

☐ DataTalker 3780 BSC
Turns micro into IBM 3780/2780 remote batch terminal using bisync protocol. Selects and modifies configuration parameters including buffer size, record size, compression, transmission code and time out delay. Requires DataTalker PC Plus, DataTalker PC or DataTalker II.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 1,500 since 1983 ☐ Cost: $695-$1,095

XICOM TECHNOLOGIES CORP.

☐ 3270/3770 SNA MicroNode
Accesses IBM mainframes over SNA networks by emulating IBM 3274, 3278, 3287 and 3776. Link protocol is SDLC with link class options of multi-point, switched or point-to-point. SNA Type 2 node with LU 1, 2 or 3 support for up to 32 devices.
IBM PC ☐ 256 KB req. ☐ Introduced: 1983

YALE UNIVERSITY COMPUTER CENTER

☐ YTERM
VT100 or DM1520 terminal emulator. Provides error correcting file transfer and session logging from 300 to 9600 baud. Fully compatible with Yale ASCII communications system.
IBM PC, XT, AT, PCjr, Portable PC ☐ 64 KB req. ☐ Copies sold: 2,500 since 1983 ☐ Cost: $50

COMMUNICATIONS— MICRO/MAINFRAME LINKS

ADVANCED TECHNOLOGY INTERNATIONAL, INC.

☐ MAPLE
Development tool for integrated PC to mainframe application. Integrates CICS and PC software and data bases into one system. Multiple file concurrent transfer. Uploads and downloads. Backup of PC files on mainframe. Binary data support. ASCII, Lotus and DIF files support. System tuning capability.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $650-$950

AMERICAN INTERNATIONAL COMMUNICATION CORP.

☐ **Data Communications System 500**
Enables PCs to participate in controlled PC network using dial-up lines and asynchronous modems. Proprietary protocol provides reliable data transfer with retry and recovery allowing for attended or unattended operation. Stands alone or integrates into PC applications. Provides growth path to mainframe communications.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $10,000

ANSWER SYSTEMS
(division of Sterling Software)

☐ **Answer/Link**
Provides transparent link between PC and IBM mainframe through use of mainframe resident virtual diskettes.
IBM PC, XT, AT, 3270-PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $6,200 and up

☐ **dBASE/Answer**
Works with Answer/DB system. Selects and extracts data from the data base on an IBM mainframe. Summarizes data and downloads it to PC. Stores extracted and summarized data on PC's diskette. Usable with dBASE II, dBASE III, FRIDAY or Framework, Lotus 1-2-3 and Multiplan.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 135 since 1983 ☐ Cost: $286-$550

☐ **Lotus/Answer**
Works with Answer/DB on-line retrieval reporting system to access data bases on mainframe computers. Summarizes data and downloads it to PC. Data usable with Lotus 1-2-3 and Symphony.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 140 since 1984 ☐ Cost: $286-$550

☐ **Micro/Answer**
Extracts data from multiple data bases/files within IBM mainframe. Downloads summarized data to IBM PC. Data is usable with Lotus 1-2-3, Symphony, dBASE II, III and Framework.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 140 since 1984 ☐ Cost: $550

AUTOMATED INSURANCE RESOURCE SYSTEMS, INC. (AIRS)

☐ **Airlink**
File transfer between mainframe and micros.
IBM PC ☐ Copies sold: 20 since 1984

AVATAR TECHNOLOGIES, INC.

☐ **IFT/3270**
File transfer program. Transfers text and binary files between PCs and mainframes. Works with PA100 Turbo micro-to-mainframe link. Initiates file transfers during host session, in off-line mode from PCDOS command prompt.
IBM 3270-PC ☐ Cost: $100

CANADA SYSTEMS GROUP

☐ **Allegro**
Micro-to-mainframe link and PC integration. Imports/exports data to other products. Support DOS functions. Productivity tools include calculator, time manager, file cabinet, scratch pad and EDform. Telecommunications options include dialCSG, phone manager and board support for 3278 communications adapters.
IBM XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 150 since 1985 ☐ Cost: $495

CDI SYSTEMS, INC.

☐ **Autokey/3270**
Controls 3270 interaction from PC Command file. Accesses screen-image buffer on 3270-PC emulator boards. Executes commands simulating 3270. Handles entire log-on sequences, repetitive input procedures and applications requiring interaction with 3270 screens. Includes command interpreter, communications board configurator attribute display and encrypt/decrypt.
IBM PC, XT, AT, 3270-PC ☐ 128 KB req. ☐ Cost: $69-$149

☐ **FTS**
Transfers files from micros to mainframes. Batch re-execution feature available at any time during interactive menu session.
IBM PC, XT, AT, 3270-PC ☐ 128 KB req. ☐ Cost: $129

☐ **Trio**
Transfers files from IBM mainframe to PC, extracts data and converts extracted data into a spreadsheet or data base format. Prepares data for upload to mainframe data base systems. Accesses PCDOS commands. Interfaces with Symphony and dBASE II and III.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Cost: $395

CENTURY ANALYSIS, INC. (CAI)

☐ **Link/9**
Enables PC data files to be sent to mainframe, through NCR CLC/MLAs, multiplexor, or the CAI OSI. Allows PC to emulate an NCR 7900 Model 1 terminal in dumb mode. Control of transferring data is maintained by PC operator through terminal entries.
IBM PC ☐ 50 KB req. ☐ Copies sold: 25 since 1983 ☐ Cost: $3,500

CINCOM SYSTEMS, INC.

☐ **PC Contact**
Uses existing accounting and security systems, supports DIF and ASCII formats, emulates 3270 and allows active mixing of mainframe and PC data. Sold as a package with SeriesOnePlus Microcomputer Decision Support Software.
IBM PC ☐ 128 KB req. ☐ Copies sold: 40 since 1984 ☐ Cost: $500

COLLIER-JACKSON, INC.

☐ **Execulink**
Downloads financial data from CJ/Advanced GL to an IBM PC. Returns information from PC to HP 3000 or DEC/VAX computers. Allows user to access CJI's business software data bases, access information and build spreadsheets to simulate what-if situations.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 10 ☐ Cost: $2,000

COMMUNICATIONS SUPPORT GROUP

☐ **FTS (File Transfer System)**
For large volume data transfers. Transfers files between IBM host and other minis, micros and mainframes. Transmits/receives multiple files. Uses bisync 3780 line protocol. Controls multiple lines, dial-out or auto-answer to transfer sequential files.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10 since 1982 ☐ Cost: $7,000 and $1,000 per line installed

COMPUTER ASSOCIATES INTERNATIONAL, INC.

☐ **CA-Link**
Async, bisync, SDLC/SNA and IRMA-based communications offering 3270 terminal emulation and selective data integrity/security. Provides file transfer and reformatting into ASCII, DIF, BASIC and binary.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $1,295

COMPUTER CORP. OF AMERICA (CCA)

☐ **PC/204**
Provides ability to access corporate data stored in MODEL 204 DBMS, download view of data to PCs in DIF file or ASCII format and upload PC files back to MODEL 204.
IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $17,500

☐ **Prod/Net**
Shares peripherals by connecting PCs into local networks, with data transfer between mainframes and PCs. Offers multi-tasking for micros, icon interfaces, mouse support and file security/integrity. Stores and transmits Wang, Xerox and IBM Displaywriter and DisplayWrite Series documents.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $9,820

COMSHARE, INC.

☐ **W/Communications**
Mainframe communications supporting range of communication paths including async, bisync and protocol converters while ensuring error-free data transmission between PCs and mainframe. Capability to package repetitive PC to host routines including host logons, file transfers and PC processing.
IBM PC, XT, AT ☐ Cost: $5,000-$10,000

☐ **W/Information Gateway**
Includes menu building, communications, basic business graphics, optional 3D modeling, local library management and security. Applications can be packaged and called with single menu choice. Accesses mainframe data from PC. Generates charts.
IBM XT, AT ☐ 512 KB req. ☐ Cost: $450

CONTROL DATA BUSINESS CENTERS (CDBC)

☐ **Orchestrator**
Accounting and micro-mainframe link. Connects CDBC's mainframe allowing nationwide standardization in AP, AR, GL and payroll. Connects with Lotus 1-2-3, Symphony, dBASE III, and HR1.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $3,000

CONTROL DATA CORP.
Science Information Services

☐ **VistaCOM**
Enhancements aid data transmission rate, file transfer protocol and interaction with DOS without exiting. Based on the open systems interconnection architecture of the ISO. Protocol uses Hoffman Coding data compression techniques, a CRC-16 error-checking methods and packet pipelining.
IBM PC, XT, AT ☐ Introduced: 1983

CORE TECHNOLOGY CORP.

☐ **Bridge**
Connects a TI micro to Burroughs mainframe. Provides Burroughs TD830 terminal emulation and file transfer capabilities. Functions supported include status line, multiple pages, background printer address and reverse video. Features on-line help, multiple configuration files, user definition of the number of pages displayed and a line monitor.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $995; site license available

CORVUS SYSTEMS, INC.

☐ **SNA Gateway**
Applications include central file extract for local decision support, interaction between local and central electronic mail systems, access to host applications and data bases via 3270 emulation capability, centralized management of workstation software distribution, report distribution and sharing and data entry upload.
IBM PC, XT ☐ 512 KB req. ☐ Introduced: 1984

CULLINET SOFTWARE, INC.

☐ **Goldengate Information Link**
Provides transparent access to information in Cullinet's ICMS on mainframe. Downloads mainframe data into various PC formats including ASCII, DIF, Lotus 1-2-3, Symphony, dBASE II and dBASE III. Provides electronic mail facility for ICMS users. Requires ICMS.
IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 11,000 since 1985 ☐ Cost: $195-$300

☐ **Infogate**
Provides PC users with transparent access to mainframe information in Cullinet's Information Center Management System. Upload/download capability of data tables and DOS files. Allows for translation between various PC file formats. Provides electronic mail facility for ICMS users.
IBM PC, XT, AT ☐ 384 KB req. ☐ Introduced: 1986 ☐ Cost: $300



The Most Powerful LAN Fits on a Disk.

Network Power. You knew that someday there would be a powerful LAN that didn't need old-technology network boards. It would be fast, easy to install, and run 99% of PC-DOS software. It would be expandable, provide remote access, password-protection, and enable you to use inexpensive terminals as workstations in a PC-DOS environment.

Dream no more, because the power is here.

Its name is LANLink™

A Software-Driven LAN Powerful Enough To Use RS-232 Ports for Network Communications. In development for over three years, LANLink™ represents the next generation of local area networks. All of the logic which has traditionally resided on network boards is on LANLink's Satellite and Server Diskettes.

No additional hardware is required. Inexpensive serial ports replace "Kilobuck" Network Interface Boards making installation costs one-third that of a board-driven network.

How To Configure a Smart Network...With Dumb Terminals, But Without Dedicated Servers. Boasting a wide variety of configurations, LANLink™ is most often set up as a "Star" having up to eight satellites connected to a central, nondedicated server. Larger networks can have multiple servers, supporting a total of 73 or more network users.

R-LAN™ (Remote-LAN) gives users the ability to interact with a LANLink™ network in real time via modem. Plus, if MultiLink Advanced™ is run on a Satellite, inexpensive dumb terminals can be used to access network disks, files, and programs.

99% of PC-DOS Applications Run In a Totally-Transparent Network Environment. If you know DOS, you already know how to use LANLink™ COPY transfers files among users, and a 2-drive PC Satellite boots 1-2-3 from the Server's hard disk with the entry c:lotus. Each satellite's access can be limited to specific disks, printers, and sub-directories. A wide variety of software including Lotus 1-2-3, dBASE III, and WordStar 2000 is fully compatible. LANLink™ has a collision-free data transfer rate which exceeds 115,000 BPS.

Power Up Your PCs Today. For complete details and the authorized dealer nearest you, call The Software Link TODAY. The LANLink™ Starter Kit is $495 and includes modules for both a Server and a Satellite. For a limited time, 50 feet of shielded RS-232 cable will be included free of charge. Additional Satellite Modules are only $195, each.

LANLink™ is immediately available and comes with a money-back guarantee. VISA, MC, AMEX accepted.

LANLink™

THE SOFTWARE LINK, INC.
Developers of LANLink™ and MultiLink Advanced™

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Now you can open micro-to-mainframe paths to the future.

PCOX™ Technology is built on a very simple concept.

Open migration paths.

So you can upgrade products without throwing boards away.

So you can move from one PC to another without learning a new user interface.

So you can write application programs for PCs all over a network, without accounting for dozens of different program interfaces.

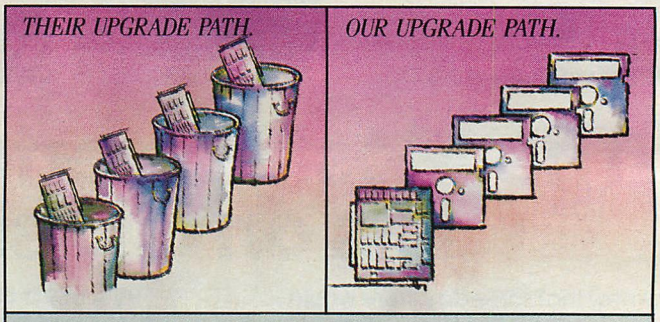
So you can standardize on a system of products that covers all your needs. Local and remote.

Including 3278/79 emulation. File transfer. Windowed PC and host sessions. Multihost 3270 PC emulation. Graphics. Gateways. Even 5250 emulation.

And whatever the future may bring.

No more dead ends.

Before PCOX Technology, terminal emulation was something of a terminal disease. About the best a PC could do was imitate a dumb 3270 terminal.



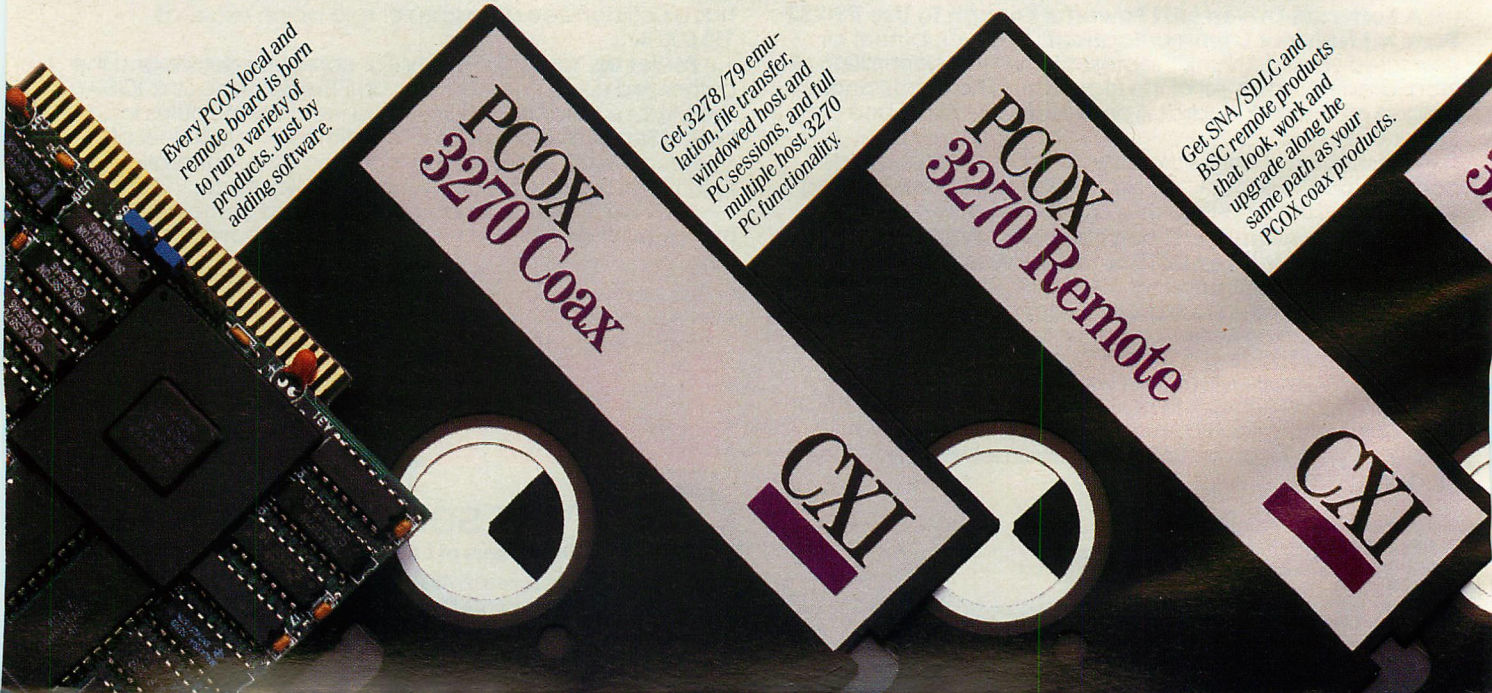
With PCOX Technology, you don't need a new board for every new micro-to-mainframe product. Start with one board and upgrade with software. It's the easier way! And cheaper, too.

Which left the users thirsty for more power. They wanted to interact with corporate data bases. Use multiple host sessions. Get into mainframe graphics. Do *all* this over the phone. Or from a LAN.

This involved other interests, like MIS, DP, PC evaluators and information centers. They needed more than boards. They needed a *system.*

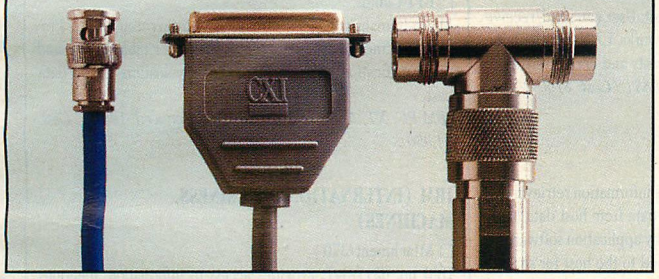
So CXI gave it to them. With PCOX Technology. A modular system of micro-to-mainframe products that helps manage PC demands for mainframe access.

PCOX Technology works wherever PCs want to make mainframe



ogy Takes You rame. And Beyond.

ALL THE WAY THROUGH SNA.
PCOX Technology is dedicated to all the expressions of SNA and LU 6.2, with micro-to-mainframe links for 3270 coax, remote, LAN and 5250 environments.



connections—clustered around a controller, ganged up in a LAN, or isolated on the far ends of phone lines.

And PCOX Technology is open to the future. Which means it's ready to follow SNA wherever IBM® takes it, including all the future destinations of APPC and LU 6.2.

So your 3270 and 5250 networks can evolve without making your investments extinct.

All your favorite programs.

Just about any micro-to-mainframe application program written for CXI, IBM or IRMA™ will run on the PCOX system.

That includes programs from IBM, SAS, Cullinet, Micro-Tempus, Cincom, Tangram, Sterling Software and others.

And every PCOX product uses the same application program interface (API). So any application program written for PCOX in a local environment will also run in PCOX remote and LAN environments.

Which makes PCOX a perfect environment for application developers, too.

Call now to order a PCOX Technology brochure. Ask for the name of your nearest PCOX distributor. And see why terminal emulation doesn't have to be terminal any more. Call:

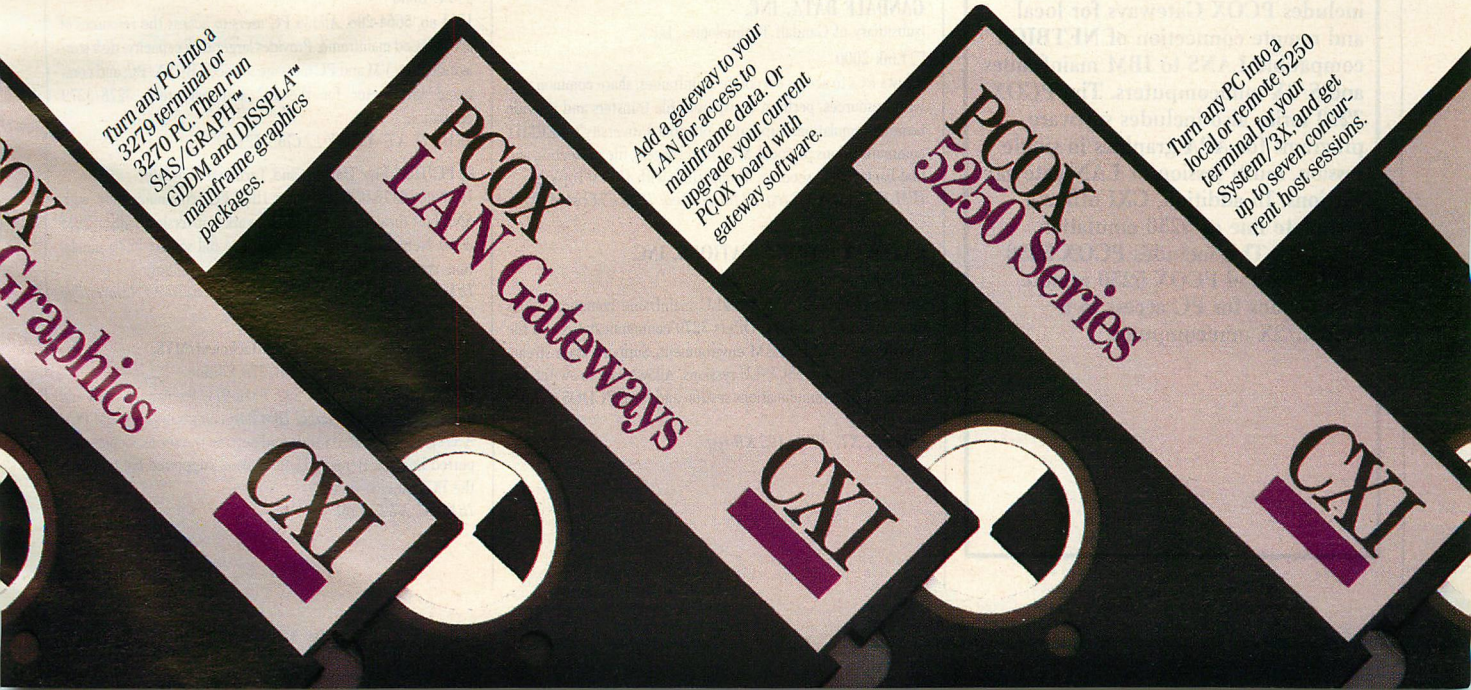
800-225-PCOX.
In California, call 415-424-0700.

CXI

CXI, Inc., 3606 West Bayshore Road
Palo Alto, CA 94303. Telex: 821945

CIRCLE 217 ON READER SERVICE CARD

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CXI, INC.
SEE AD ON PAGES 266/267

☐ **PCOX/File Transfer and PCOX/Send-Receive**
Allows file transfer from IBM PC and PC compatible micros to IBM mainframe running TSO or VM/CMS. Features terminal, file transfer and maintenance modes, screen save file name specification and SPF-style information entry panels.
IBM PC, AT, XT ☐ 192 KB req. ☐ Introduced: 1983 ☐ Cost: $100

DATA RESOURCES, INC.
(subsidiary of McGraw-Hill, Inc.)

☐ **PC Gateway II**
Links micros with DRI's mainframe-based financial and economic data bases. Requires Hayes, Racal-Vadic or Penril modem. Accepts data in PRN, DIF, WKS, SAL, ESP, FCS, WUF, TSD and MDL formats.
IBM XT, AT ☐ 256 KB req.

DIGITAL COMMUNICATIONS ASSOCIATES, INC. (DCA)

☐ **IRMAlink FT/CMS**
Assigns transfer definition based on file name entered by user. Handles text and binary files. Supports sequential and partitioned data sets with fixed and variable record formats. Supports international character sets. Includes IRMA board.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $75-$125

☐ **IRMAlink FT/TSO**
Transfers data through 3270 communications network. Allows user to create and store additional transfer definitions. Supports sequential and partitioned data sets with fixed and variable record formats. Includes IRMA board.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $75

☐ **IRMAlink FT/3270**
Works with IBM's host-based file transfer system to allow the transfer of files to and from a mainframe operating in TSO, CMS, or CICS environments. Interfaces Profs PCC and PS/PC.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $115

CXI, INC.
3606 West Bayshore Road
Palo Alto, CA 94303-4229
800-225-PCOX; In California, 415-424-0700
Telex: 821945

CXI's PCOX product line includes a full range of 3270 emulation products for IBM and compatible PCs. This includes PCOX Gateways for local and remote connection of NETBIOS compatible LANS to IBM mainframes and S/3X minicomputers. The PCOX 3270 series also includes software programs for APA graphics in single session, multi session or LAN gateway versions. In addition, CXI offers a complete line of 5250 emulation products. This includes PCOX 5250 TWINAX and PCOX 5250 remote connections for PC access to a System/3X minicomputer.

☐ **PC/3278 FT/CMS**
Transfers data through 3278 communications network. Assigns transfer definition based on file name entered by user. Handles text and binary files. Supports sequential and partitioned data sets with fixed and variable record formats. Supports international character sets and keyboards in Danish, German and Austrian. Includes IRMA board.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $1,195

☐ **PC/3278 FT/TSO**
Transfers data through 3278 communications network. User can create and store additional transfer definitions. Supports sequential and partitioned data sets with fixed and variable record formats. Supports 3270 keyboards in Danish, German and Austrian. Includes IRMA board.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $1,195

DTSS INC.

☐ **Datapass**
Micro-to-mainframe file transfer and terminal emulation. Provides log-in sequence for access to host. User can send/receive single/multiple files across public networks, LANs or telephone lines. User can monitor transfer requests and correct errors.
IBM PC ☐ Copies sold: 500 since 1983 ☐ Cost: $160

ESI

☐ **Micropulse**
Fourth generation micro to mainframe information retrieval system. Allows users to extract selected data from host data bases and download formatted data for use by application software on micros. Processed data can be returned to the host for sharing with other users. Interfaces to ESI's Datapulse, Genpulse and Impulse.
IBM PC ☐ Copies sold: 50 since 1984

FEL COMPUTING
(division of FEL Industries, Inc.)

☐ **Mobius**
Transparent micro to host integration. Provides task-to-task communications, task definition facility that manages sequences of interactions between host and micro, and VT100 emulation with menued set up, color choices, automatic capture, scripting, auto-dialing and auto-log in. Supports async ASCII communication and Ethernet.
IBM PC, XT, AT ☐ Cost: $250

FLAGSTAFF ENGINEERING

☐ **File Connection**
Allows 8" diskette file exchange between PCs and most micro/mini/mainframe computers. Supports read/write capabilities.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 4,000 since 1982

GANDALF DATA, INC.
(subsidiary of Gandalf Technologies, Inc.)

☐ **Link 2000**
Allows PCs to access corporate mainframes, share common network resources, perform transparent file transfers and provide terminal emulation. Supports Columbia University's KERMIT communications protocol. Multi-level access, file protection and dial-back access security. Compatible with IBM's TopView.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $195

GATEWAY COMMUNICATIONS, INC.

☐ **G/SNApc 3270**
Provides single-user SNA/SDLC mainframe communications by emulating IBM 3274. Offers 3270 communications and file transfer in VTAM/TCAM environment. Supports data stream compatibility and SSCP-LU sessions. Allows user to switch between 3270 communications session and local PCDOS or LAN program.
IBM PC, XT, AT ☐ 192 KB req.

☐ **G/SNApc 3770**
Provides single-user, PC-to-mainframe 3770 RJE emulation with file transfer. Supports 1-5 logical units. Communicates in JES or Power mainframe environment. Allows user to switch between 3770 communications session and local PCDOS or LAN applications.
IBM PC, XT, AT ☐ 192 KB req.

GENERAL ELECTRIC INFORMATION SERVICES CO. (GEISCO)
(subsidiary of General Electric Co.)

☐ **Mark III Professional Workstation**
Full-screen PC to mainframe communications. Provides flow controls, editing, print spooling and file transfer.
IBM PC ☐ Cost: $100 per package

GOLDATA COMPUTER SERVICES, INC.

☐ **BPI-Comm**
Micro-to-mainframe link. Applications are written on PC. Provides routines to send data to mainframe for table lookup and data verification. Does not require downloading entire data base.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1984 ☐ Cost: $4,950

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ **Attachment/370+**
IBM no. 6317-047. Provides access to information, functions and facilities of mainframe host including file transfer, execution of host procedures and virtual disk. Provides Personal Decision Series user interface and Extend/370 (EZ-VU Runtime Facility interface).
IBM PC, XT, AT, 3270-PC, 3270-AT ☐ Cost: $300

☐ **Host Data Base View**
IBM no. 6466-998. Accesses host data from PC, transparently. Reformats host data for use with such PC products as Lotus 1-2-3 and Symphony, dBASE II, Multiplan and IBM's Personal Decision and Filing Assistant Series. Interfaces to IBM's QMF, TIF and InfoCenter/1.
IBM PC, XT, AT ☐ Cost: $395

☐ **Mainframe Communication Assistant**
IBM no. 6024-140. Runs under IBM's TopView with full windowing. Uploads or downloads files. Supports check sum and sequence checking on transferred data. Includes facilities for user exits and extensions. Saves up to 30 screens for later review.
IBM PC, XT, AT, Portable PC, PCjr, Convertible ☐ 128 KB req. ☐ Cost: $199

☐ **PC Bond**
IBM no. 5664-298. Allows PC users to access the resources of a VM-based mainframe. Provides larger disk capacity, disk storage sharing, VM and PC message services, REXX/PC, and command interpreter for the PC and full-screen 3278/3279 emulation.
IBM PC, XT, XT/370 ☐ Cost: $2,000

☐ **PC/Host File Transfer and Terminal Emulator**
IBM no. 6476-052. Supports IBM PCs communicating with SNA host through IBM 3708 Network Conversion Units or IBM 3710 Network Controllers. Provides full-screen 3270 emulation, status-line support and 4-color or highlighting.
IBM PC, XT, AT, Portable PC, 3270-PC, 3270-AT, Convertible ☐ Cost: $200

☐ **Personal Decision Series - Attachment/MVS, Attachment/VM, Attachment/370 Edition**
IBM no. 5665-336, 5664-290, 6316-971. Exchanges tasks and information between larger IBM host computers and IBM PCs. Accesses data created inside and outside the series. Copies supported host file types to Data Edition supported file types on the PC and vice-versa.
IBM PC, XT ☐ Cost: $200

☐ PROFS/PC2 (PROFS Personal Computer Connection to VM)
IBM no. 6410-984. Extends PROFS functions to the IBM PC. Transfers incoming mail and other business information to PC for standalone processing. Results can be transferred to the system for processing or distribution to other system users. Documents transferred to PC for printing.
IBM PC ☐ Cost: $200

☐ VM Bond
IBM no. 6317-007; 6467-022. Includes message reception services, 3278/79 terminal emulation, REXX/PC command interpreter and VM-host command services. Allows PC to PC binary and text file transfer to PCs on the same or different VM-host connection. Provides for storage of sensitive PC data on VM host.
IBM PC, XT, AT, XT/370, AT/370 ☐ 256 KB req. ☐ Cost: $125 (6317-007); $250 (6467-022)

☐ 3270-PC File Transfer Program
IBM no. 5664-281; 5665-311. Transfers files from a host to a workstation for off-line data manipulation, updating, or correction, or transfers and stores local data in the host system.
IBM PC, XT ☐ Cost: $600

INFORMATION RESOURCES, INC. (IL)

☐ EXPRESS-Mate
Async communications allowing users to join IBM PC with EXPRESS. Enables PC to become workstation. Features log-in to mainframe, scrolling and local editing. Enables EXPRESS to communicate with micro programs including Lotus 1-2-3, Symphony, dBASE II, and WordStar.
IBM PC ☐ 192 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $295

INFORMATION TECHNOLOGIES, INC.

SEE AD ON PAGE 271

☐ LinkUp 3270 ITF Gateway System
Links PCs to LAN and IBM host computer. Communicates with mainframe as multi-session 3270 terminal using SNA or BSC emulations. Dynamic device data area allocation, background printer and file access, printer spooling, and high-level language application program interface. Supports user-written device handling.
IBM PC, XT, AT ☐ Cost: $1,995

INSTANT INFORMATION, INC.

☐ Instantcom XWorld
PC to PC and PC to mainframe communications. Includes autologon and auto-answer for unattended file receipt. Provides simultaneous bidirectional file transfer with error checking. Built-in word processor. Handles information retrieval, file transfer and messaging services.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,500 since 1986 ☐ Cost: $120

INTELLIGENT TECHNOLOGIES INTERNATIONAL CORP.

☐ Async Exchange
Provides communications between PCs and async mainframes. DEC VT100/52 emulation.
IBM PC ☐ 128 KB req. ☐ Cost: $150

☐ Bisync Exchange 3270
Allows bisync PC to mainframe communications. Emulates IBM 3274, 3278/9 and 3287.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $795

☐ File Exchange
Supports bi-directional transfer of data over coax or modem connections between PCs and mainframes running CICS, TSO and CMS applications.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $295

INTERACTIVE IMAGES, INC.

☐ Easel
High-level language that allows developers to build and provide PC-based front-ends for remote mainframe applications. Provides communication for interaction and data transfer, and hires color graphics for building icons and business graphs. Supports touch screen, mouse or keyboard.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 25 since 1984

INTERCOMPUTER COMMUNICATIONS CORP. (ICC)

☐ Honeymate
Interfaces to Honeywell mainframes.
IBM PC

☐ Hostmate
Interfaces with Burrough's Hostlink to allow multi-user data and file sharing between mainframe and micro. Stores micro files in special area in mainframe. Provides several levels of file security.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1 since 1985 ☐ Cost: $245

☐ Intercom Series
Allows users to perform terminal emulation and file transfers. Uploads and downloads files between IBM PC and Burroughs and Sperry mainframes. Includes Xtract II which downloads Burroughs mainframes to IBM PC and into spreadsheet format, word processing or data bases.
IBM PC ☐ Copies sold: 700 since 1983

☐ LanMate
Links most PC networks to mainframe computers, allowing both horizontal and vertical data transfers. Provides distributed data processing.
IBM PC ☐ 192 KB req. ☐ Introduced: 1985

☐ Link
Allows micro to mainframe file transfers. Assigns data security structures. Stores micro files in mainframe.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2 since 1985 ☐ Cost: $4,900

☐ Xtract I and Xtract II
Allows mainframe data to be used on micro. Compatible with such programs as Lotus 1-2-3, WordStar and Multiplan.
IBM PC ☐ Copies sold: 8 since 1984 ☐ Cost: $1,000-$3,900 (Xtract I); $6,000-$12,000 (Xtract II)

LINKWARE CORP.

☐ Linkware: Information Server
Places intelligence on each node of the information network to facilitate access, transfer and transformation of information. Allows user to place host production data in a central staging area where authorized PC and terminal users can access data. Offers option of transforming data to popular PC application formats.
IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $15,000

☐ PC Connection
Communicates with Linkware's file server application on the mini or mainframe host computer. Provides PC connection in conjunction with Linkware's Information Server. Includes file transfers, file maintenance, terminal emulation and emulation based interfaces.
IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $15,000

LOTUS DEVELOPMENT CORP.

☐ Symphony Link
Utilizes 3270 networking resources and protocols. Transfers files to and from VM/CMS and MVS/TSO operating environments. Integrates mainframe applications into personal computer applications.
IBM PC

☐ T-A-C (The Application Connection)
Provides connections between mainframe 4GL data bases, statistical packages and PC spreadsheets and data base applications. Generates fourth generation code. Allows PC users to extract/update information residing within information center data bases. Cross-loads data into multiple mainframe data bases including SQL/DS and SAS.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1986 ☐ $180

MACKENSEN CORP.

☐ File Transfer System
Allows files to be transferred between IBM PC and mainframes running TSO, CICS, IMS, IDMS and CMS. Works with coax-attach and RS-232C-attach 3270 emulation products. Features include data transfer rates of 3,700 cps and a user interface.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 4,869 since 1983 ☐ Cost: $295

MARTIN MARIETTA DATA SYSTEMS

(operating company of Martin Marietta Corp.)

☐ LinkIT
Async PC-to-PC or PC-to-mainframe communcations program with unlimited information format and that can simultaneously send, receive, edit and print. Screen editor and split screen operation.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 2,250 since 1983 ☐ Cost: $100

☐ PCmainframe
Allows downloading and uploading between PCs and central host IBM mainframes. Selectively extracts, summarizes and transmits condensed mainframe files to the PC in format usable by popular PC software.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 70 since 1984 ☐ Cost: $300

☐ Unison
Desktop information processing. Includes word processing, spreadsheet, graphics and file management standalone modules. Accesses RAMIS II. Provides transparent mainframe/PC communications, fourth generation language, access control, windows, downloading/uploading and electronic messaging.
IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1985

☐ Unison RAMLink
Connects relational RAMIS II DBMS for the mainframe with a number of PC software packages. Data transfer from the mainframe to PC is requested by adding a transfer phrase to a standard table request. Reformats data for Lotus 1-2-3 and IT Software's KeepIT.
IBM PC, XT, XT/370 ☐ 192 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $185

☐ VIRTUALink
Provides PCs with virtual disk storage and information sharing among other PCs and host.
IBM PC ☐ Cost: $150

MASTERLINK

☐ Handshake Plus
IBM PC ☐ 128 KB req. ☐ Copies sold: 10,000 since 1983 ☐ Cost: $495

MCCORMACK & DODGE CORP.

☐ Interactive PC Link
On-line, ad-hoc single, multiple or direct query capability, executed from the micro allows real-time selection of specific information from M and D mainframe application files. Users can manipulate selected data at the micro level with Lotus 1-2-3.
IBM PC ☐ 256 KB req. ☐ Copies sold: 400 since 1983

☐ Remote PC Link
Operates through all common carriers, including public switched telephone lines and leased lines. Access is accomplished by a dial-up to the host site by modem-to-modem connection. The user can query information for on-line reporting or download selective mainframe data to the PC.
IBM PC ☐ Introduced: 1985

MCDONNELL DOUGLAS INFORMATION SYSTEMS GROUP

(component of McDonnell Douglas Corp.)

☐ PC-Tel
Performs async communications, plus text and binary file transfer between PC and host computers. Performs PC to PC file transferring, printing, and PCDOS commands while connected to a host computer. Command file facility.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 250 since 1985 ☐ Cost: $195

the linkup™ connection

Advanced micro-to-mainframe solutions

PC - Data Communications

When you're using the LinkUp System approach...
...the system always appears the same to the user!
And that holds true for...
...intelligent (coprocessor) or non-intelligent hardware,
...standalone, LAN/Gateway or remote,
...file transfer - whether SNA or BSC, or Coax,
...and API - standard to all applications,
because the software modules are designed to fit within a standardized architectural framework.

SOFTWARE

LinkUp systems from Information Technologies, Inc. support the following terminal emulations:

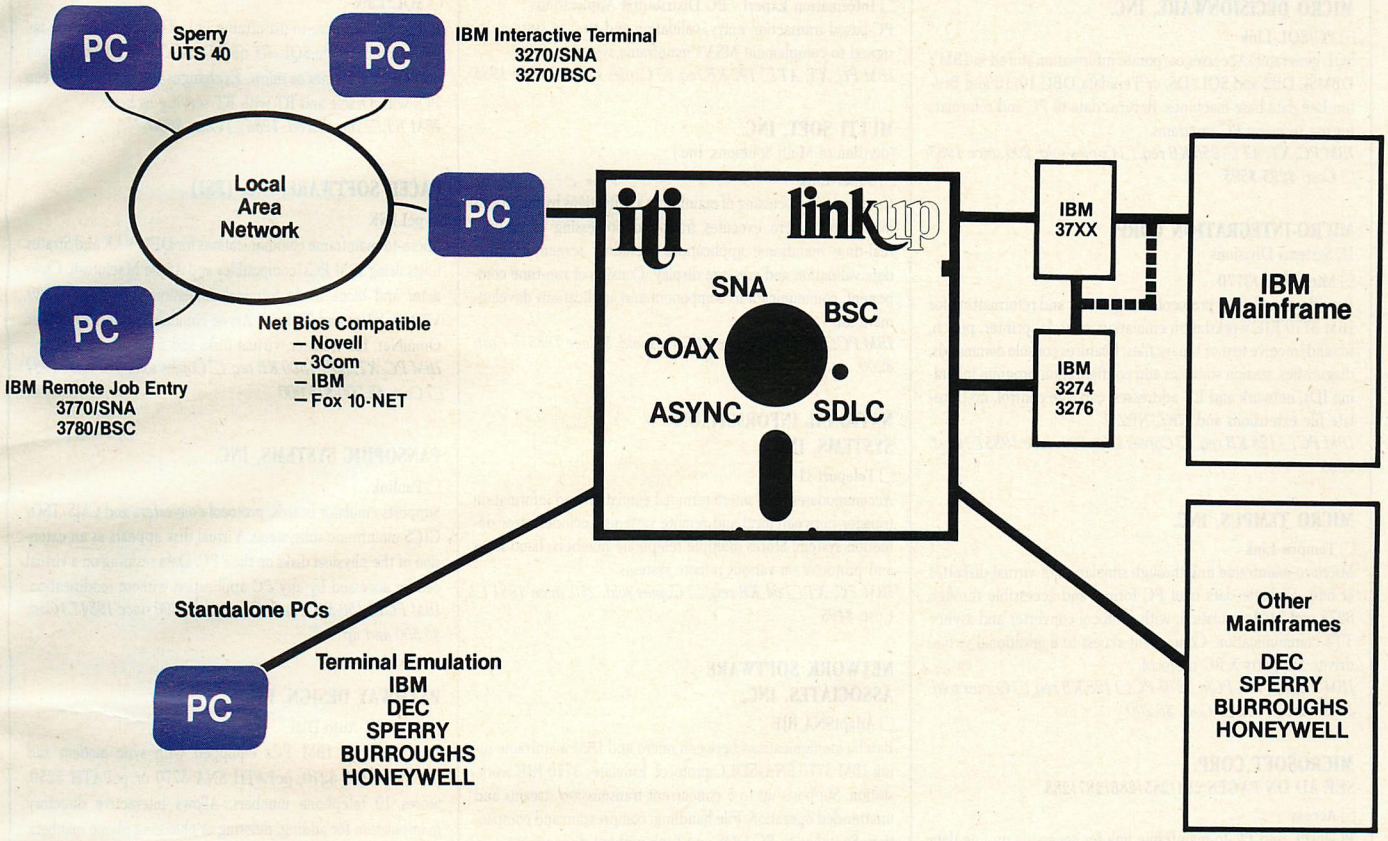
TERMINAL MANUFACTURER	EMULATION
IBM	• 3274/3276 SUPPORTING SNA/BSC WITH 3278, 3279 MODEL 2 DISPLAY TERMINALS • 3286, 3287, 3289 PRINTERS ATTACHED • 3275/BSC TERMINAL • 3770 RJE/SNA TERMINAL • 2780/3780 RJE/SNA TERMINAL • 2780/3780 RJE/BSC TERMINAL
DEC	• VT52 • VT102 • VT100 • VT220
BURROUGHS	• MT900 SERIES, INCLUDING MT983, 993 • TD800 SERIES, INCLUDING TD832
HONEYWELL	• VIP: 7700 7700R 7705 7705R 7705W 7804 7805 7814
SPERRY	• UNISCOPE: 100 200 • UTS: 20, 40, 400

HARDWARE

These versatile, general purpose adapters, when coupled with Information Technologies' array of modular communications software packages and emulations, allow the use to connect the PC to virtually any other computer with communications capability. **MODEM-CONNECT LinkUp ONE:** onboard coprocessor with 56K memory to handle continuous data throughput to 19.2Kbps* and off-load real time data communication CPU requirements from the PC. **LinkUp XT:** a general purpose communications adapter board to handle data rates to 9600 bps* with optional capability to 400Kbps under DMA control.

Flexible, Multiprotocol Hardware • BSC, SDLC, HDLC, ASYNC • Optional plug-in interface adapters for varied communication requirements are RS 232, RS 422/449, RS 423/449, RS 485, MIL STD 188, Other on request, **COAX-CONNECT LinkUp COAX:** 3278/79 COAX (IRMA Compatible)

"IRMA" is a registered trademark of Digital Communications Associates, I



ADAPTABILITY

Change from BSC to SNA with a simple software upgrade. Run both 3770 SNA/RJE station and 32 sessions of IBM 3270 (displays and printers) in the background along with a DOS application in the foreground.

RECOVERABILITY

If the link goes down while you're using LinkUp, you may keep working at your PC, and—when the link comes back up, your system is ready and waiting ... no need to reboot.

PRINT CONTROL CAPABILITY

Information Technologies offers a dedicated, high speed printer support facility and print spool capability.

LinkUp Speedprint software, operating in the background, is able to transmit data from an application or from disk to a high speed printer via a dedicated serial port with data rates up to 19.2Kbps—the equivalent of 1,200 Lines Per Minute.

LAN/GATEWAY SUPPORT

With the addition of LAN interfacing modules, the LinkUp 3270 SNA/BSC Interactive Terminal Facility (ITF) now runs on a Local Area Network (LAN). The ITF subsystem provides an advanced data communication link between PCs attached to a LAN and an IBM (or compatible) host computer. You can have SNA and BSC working together in the same LAN System. Multiple gateways on the LAN give you access to more than one host.

FILE TRANSFER

Two file transfer programs are available, one interfacing with the TSO or CMS editor and one that works with the IBM 3270 PC host-based file transfer under TSO, CMS or CICS.

APPLICATION PROGRAM INTERFACE (API)

The API allows you to integrate your own programs and directly use the communication capabilities of the 3270 SNA, 3270 BSC, 3770 SNA and 3780 BSC emulations. The 3270 API and RJE API support a command structure similar to IBM's LU 6.2 Advanced Program-to-Program Communication (APPC).

LinkUp... an investment in reliable, upgradable assets for today and tomorrow.

iti® INFORMATION TECHNOLOGIES INC.

7850 East Evans Road Scottsdale, AZ 85260

800/431-3460 602/998-1033

CIRCLE NO. 352 ON READER SERVICE CARD

MICRO DECISIONWARE, INC.

☐ PC/SQL-Link

SQL generator. Accesses corporate information stored in IBM's DBMSs, DB2 and SQL/DS, or Teradata DBC 10/12 and Britton Lee data base machines. Returns data to PC and reformats for use in many PC programs.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $295-$595

MICRO-INTEGRATION CORP.

IE Systems Divisions

☐ Micro-SNA/3770

Provides translation, protocol management and reformatting for IBM 3770 RJE workstation emulation, console, printer, punch, to send/receive text or binary files. Features console commands, diagnostics, session statistics and configuration program including IDs, network and LU addresses, carriage control, no-translate file extensions and NRZ/NRZI.

IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $695

MICRO TEMPUS, INC.

☐ Tempus-Link

Micro-to-mainframe link through simulation of virtual diskettes at host. Diskette data is in PC format and accessible through 3278 and 3101 emulation, with protocol converter and async/TTY communication. Concurrent access to 8 additional virtual drives. Supports X.PC protocol.

IBM PC, XT, AT, PCjr, 3270-PC ☐ 128 KB req. ☐ Copies sold: 1,800 since 1982 ☐ Cost: $6,200

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ Access

PC-to-PC and PC-to-mainframe link for accessing on-line data bases, information retrieval systems and electronic mail facilities. Interfaces with Dow-Jones News/Retrieval, CompuServe, EIS, NewsNet and the Official Airline Guide, MCI Mail and EasyLink.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $250

THE MOM CORP.

☐ PC/COM - BL

Baseline CICS cooperative processing. Defines fields, records and files in CICS from PC, which can be selected, sorted and reported on mainframe and transferred to PC. Specifies extraction logic on PC and host. Defines fields as character, packed or binary.

IBM PC ☐ Cost: $595

☐ PC/COM - FT

Host communications interface. Text and binary file transfer. File management. Runs from menu or command level DOS. Builds batch file to run series of file transfers with date and time control. Audits transfers.

IBM PC ☐ Cost: $395-$495

MOTOROLA COMPUTER SYSTEMS, INC.

(member of the Motorola Information Systems Group)

☐ MFE-Central

Allows IBM PCs and async terminals to communicate with a mainframe through Motorola/Four Phase System's Series 4000/5000 minis. Includes password, user ID and dialback security features. Supports 16 PCs or combination of local and remote PCs and async terminals.

IBM PC ☐ Cost: $2,000

MSA (MANAGEMENT SCIENCE AMERICA, INC.)

☐ Information Expert - ExpertLink

Permits data base sharing. Supports downloading and uploading. Allows transferring of individual fields and specific key ranges. Universal Interface feature downloads into Lotus 1-2-3, Symphony, dBase, VisiCalc and DIF.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 500 since 1982

☐ Information Expert - PC Distributed Applications

PC-based transaction entry, validation and storage system designed to complement MSA's mainframe systems.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 50 since 1985

MULTI SOFT, INC.

(division of Multi Solutions, Inc.)

☐ Super-Link

Cooperative processing of mainframe applications by micro and mainframe. Micro executes front-end processing of on-line, real-time mainframe applications including screen imaging, data validation and message display. Consists of run-time component, communications component and applications development kit.

IBM PC ☐ 30-256 KB req. ☐ Copies sold: 5 since 1985 ☐ Cost: $200

NATIONAL INFORMATION SYSTEMS, INC.

☐ Teleport II

Accommodates local micro terminal emulation and information transfer between local and remote systems. Includes error detection system. Stores multiple telephone numbers, baud rates and protocols on various remote systems.

IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 250 since 1981 ☐ Cost: $495

NETWORK SOFTWARE ASSOCIATES, INC.

☐ AdaptSNA RJE

Batch communications between micro and IBM mainframe using IBM 3770 SNA/SDLC protocol. Emulates 3770 RJE workstation. Supports up to 5 concurrent transmission streams and unattended operation. File handling, compression and compaction. Switches to PC-DOS and back without disconnect.

IBM PC, AT, XT ☐ 192 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $585

OCEANIC INFORMATION SYSTEMS, INC.

Software Division

☐ Link/XL

Upload/download transfer capabilities and security. Reads and writes files residing on mainframe. Extracto users can read files on micro's virtual diskettes and write files on virtual diskettes used by micro.

IBM PC, XT, XT/370, PCjr ☐ Introduced: 1985 ☐ Cost: $6,200

ON-LINE BUSINESS SYSTEMS, INC.

☐ EXCELLINK

Offers IBM 3278-2 terminal emulation through PC serial port. Transfers files on PCs to IBM hosts through coax connections provided by IRMA and other 3278 emulation boards. Formats files to be sent into packets of up to 1kb. Provides 16-bit CRC.

IBM PC ☐ 64 KB req. ☐ Copies sold: 125 since 1982 ☐ Cost: $9,500

ON-LINE SOFTWARE INTERNATIONAL

☐ Free-link Micro/Mainframe Link

Micro-to-mainframe link. Features file transfer, data reformatting, customized capabilities for menus and functions, virtual disk facility, context-sensitive help and English syntax query language for selective file transfer downloads.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 700 since 1985 ☐ Cost: $495

ORACLE CORP.

☐ Easy*Link

Full-screen, point-and-select interface to Oracle's micro-to-mainframe intelligent link.

IBM PC

☐ SQL*Link

Bidirectional micro-to-mainframe link. Transfers data base information between SQL/RT on RT and Oracle DBMS running on PCs, mainframes or minis. Exchanges information between PCs with Oracle and RT with RT serving as host.

IBM RT ☐ Introduced: 1986 ☐ Cost: $600

PACER SOFTWARE, INC. (PSI)

☐ pcLINK

Micro-to-mainframe communications for DEC VAX and Stratus hosts using IBM PCs/compatibles and Apple Macintosh. Character and block mode terminal emulation including VT220, VT240, V102 and TVI950. Async communications, EtherNet, OmniNet, file transfer, virtual disks and print services.

IBM PC, XT, AT ☐ 500 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $2,000-$15,000

PANSOPHIC SYSTEMS, INC.

☐ Panlink

Supports emulator boards, protocol converters and CMS/TSO/CICS mainframe subsystems. Virtual disk appears as an extension of the physical disks on their PC. Data residing on a virtual can be accessed by any PC application without modification.

IBM PC ☐ 150 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $6,500 and up

PATHWAY DESIGN, INC.

☐ pcPATH Auto-Dial

Dials host for IBM PCs equipped with sync modem and pcPATH SNA 3270, pcPATH SNA 3770 or pcPATH 5250. Stores 10 telephone numbers. Allows interactive directory manipulation for adding, deleting or changing phone numbers.

IBM PC

PEGASUS SYSTEMS, INC.

☐ PSi3270

IBM 3270 BSC and SNA/SDLC emulator for micro to mainframe networks. Provides a programmable interface utilizing BASIC. Utilizing a TeleVideo PM/16 controller, IBM PCs with IBM compatible devices can be attached in a multi-user environment. Supports 15 workstations per controller.

IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $10,000

PHASER SYSTEMS, INC.

☐ VDAM (Virtual Diskette Access Method)

Allows users to store and access data or data bases on a mainframe in PC format. Mainframe audit security and backup applies to each virtual disk. Supports all binary and text files.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 30 since 1984 ☐ Cost: $4,950

RELATIONAL TECHNOLOGY, INC.

☐ Ingres/PCLink

Browses, extracts and manipulates data from Ingres data base via visual query language. Transfers and reformats data for use with PC applications. Includes terminal emulation and bidirectional file transfer. Combines PCs productivities with multi-user DBMS' facilities.

IBM PC, RT ☐ 256 KB req. ☐ Copies sold: 250 since 1985

REMOTE DATA SYSTEMS, INC.

☐ Corporate Tie

A CICS-based file transfer and network control system. Supports both leased line and dial networks with menu-driven Interactive mode or Command mode with programming interfaces. Provides bi-directional transfer of data files between the mainframe and a network of PCs utilizing 3270 protocol.

IBM PC ☐ 64 KB req. ☐ Copies sold: 5 since 1983 ☐ Cost: $7,500

ROSS SYSTEMS, INC.

☐ Maps/Microlink

Bridge between the PC-based spreadsheets and Ross' financial management software. Transfers financial data between PC spreadsheets using DIF formats and centralized, VAX accounting and modeling data bases. Designed to integrate with MAPS/GL and MAPS/MODEL.

IBM PC ☐ 10 KB req. ☐ Copies sold: 14 since 1984 ☐ Cost: $5,000 and up

SATURN BUSINESS SYSTEMS, INC.

☐ SpreadLink

Accesses data stored in a host mainframe or mini for use with Lotus 1-2-3, VisiCalc, Multiplan and dBASE II.

IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $150

SCA PRODUCTS & SERVICES

☐ Gateway PC

Integrates mainframe 4 GL data bases to Lotus 1-2-3 and Symphony interactively or with prewritten scripts. Includes Autopilot script language, file transfer facility, menu manager and terminal emulation/async communications for 3101, VT100, TTY and Xmodem.

IBM PC, XT, AT, 3270-PC ☐ 60 KB req. ☐ Copies sold: 2,000 since 1985 ☐ Cost: $210-$350

SCIENTIFIC AND BUSINESS SYSTEMS, INC.

☐ Streamline/Easywork

Micro-to-mainframe link with mainframe report and COBOL program generator. Transfers data to PC in any PC format requested such as Lotus 1-2-3 or dBASE III.

IBM PC

SOFTWARE AG OF NORTH AMERICA, INC.

(wholly owned operating subsidiary of Software AG Systems, Inc.)

☐ Natural/Connection

Downloads and uploads data files. Converts data files at the PC to the format required for popular PC software packages. Necessary security is provided by the Natural Security System.

IBM PC ☐ 192 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $1,000

SOFTWARE INTERNATIONAL CORP.

☐ Smart Link

Requires IBM mainframe, S/38 or DEC VAX equipped with Software International's GL system. Allows users to extend the data extraction and manipulation resources. Provides live data and does not use any batch processing mechanisms to create a shadow file.

IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 150 since 1984 ☐ Cost: $3,500 (Smart Link)

SOFTWARE SYNERGY, INC.

☐ Respond/PC Executive

Enables unattended PC to call and perform data communications tasks with remote micros, minis and mainframes. Schedules tasks to run at specific times with execution proceeding in chronological order. Opens report log file to record task activity as tasks are performed.

IBM PC ☐ 256 KB req. ☐ Cost: $295

☐ Respond/3270 Local (Coax) File Transfer

Transfers files between PC and IBM 43XX and OSs. Host based. Transfers multiple files using command files making it a batch transfer.

IBM PC ☐ 256 KB req. ☐ Cost: $1,000

SOUTHERN COMPUTER SYSTEMS, INC.

☐ Mbridge/B

Provides communications between IBM PCs/compatibles and Burroughs mainframes. Includes terminal emulation and file transfer. Editing capabilities. DOD certified.

IBM PC ☐ 128 KB req. ☐ Copies sold: 1,100 since 1983 ☐ Cost: $195-$295

SPERRY CORP.

Information Systems Group

☐ On-Line Disk

Allows IBM PC applications to share Sperry 1100 mass storage as if locally attached.

IBM PC

☐ On-Line Extract

Allows IBM PC to extract data from Sperry Series 1100, System 11 or MAPPER, and store it in local PC files in ASCII, DIF, CSV (Comma Separated Variable) and Lotus WKS formats.

IBM PC

☐ On-Line Transfer

Sync file transfer between IBM PC and Sperry host.

IBM PC

☐ Personal Information Connection

Allows IBM and compatible PC users to communicate with Sperry 1100 mainframes. Includes file transfer, job submission and interactive terminal support.

IBM PC

STERLING SOFTWARE

Dylakor Division

☐ DYL-VLink

Micro-to-mainframe link, communication subsystem and virtual diskette facility. Supports over 30 communications configurations. Includes DYL-Script module that allows user to store and recall lengthy logon and logoff routines.

IBM PC ☐ Cost: $6,200-$9,800

SYNTAX SYSTEMS, INC.

☐ VAX Interface Manager

Allows VAX or MicroVAX to function as host for network of IBM PCs or compatibles, acting as server for files, electronic mail and print functions. Moves PC files to and from VMS environment.

☐ VIM Subroutine Library

Allows user applications on PC to communicate with applications and processes on VAX. Communications interface uses Ethernet high speed link.

IBM PC ☐ 256 KB req. ☐ Copies sold: 10 since 1986 ☐ Cost: $5,000

SYSTEMATICS, INC.

Software Marketing Division

☐ Gateway/Query

Formulates queries on data residing in host through hierarchy of menus and associated screens. Transmits query to host and downloads requested data to PC. Integrates with Systematics' host-based financial and accounting products.

IBM PC

THE SYSTEMS CENTER

☐ MDM (Micro Data Mover)

Sends files daily to and from mainframes, schedules unattended data transmission and distributes any program information updates to any PC on network. Supports IRMA connections. Requires TSC's NDM-MVS and Corvus' SNA Gateway.

IBM PC ☐ 196 KB req. ☐ Introduced: 1984 ☐ Cost: $500

TESSERACT CORP.

☐ IDL (Intelligent Data Link)

Supports distributed applications, data capture and queries, hybrid applications combining mainframe and micro processing, corporate data storage, and local PC processing. Controls data distribution to PC network. Includes distributed data dictionary, protocols and standards. Interfaces to IMS, IDMS and ADABAS.

IBM PC, PCjr, XT, AT ☐ 256 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $1,000

TORUS SYSTEMS, INC.

☐ 3270 SNA Gateway

Provides 32 Tapestry users access to IBM mainframe. Emulates 3274 cluster controller with 3278 screen emulation. Runs in background.

IBM PC, XT, AT ☐ Introduced: 1986 ☐ Cost: $5,495-$7,495

UCCEL CORP.

Systems Software Division

☐ R:Gate Micro/Mainframe

IBM PC

UCCEL CORP.

Financial Systems Division

☐ Infopoint:Perfect Link

Links mainframe functionality to microcomputer to manage costs, projects, WIP, statistical accounting and daily financial operations. Selective downloading and uploading of data, what-if analysis, updating of data, monitoring of expenses and forecasting. Integrates with UCCEL mainframe applications and VSAM data base applications.

IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 7 since 1984

UNI-COLL CORP.

☐ C-N-COMM

Permits IBM PC to upload/download from IBM mainframe. Includes recovery/restart, terminal emulation, error checking protocol, ability to append data to files and transmit/view records. Requires monochrome or color graphics board and display. For engineering and scientific programs.

IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 30 since 1983 ☐ Cost: $400

UNICON GROUP, LTD.

☐ PC/Louis

Micro-to-mainframe link. Distributes mainframe-resident data to IBM or compatible PC for subsequent processing. Lotus 1-2-3 compatible. Supports async dial up, direct connect and LAN links. Multiple query processing. Immediate or deferred queries. Password protection.

IBM PC

VM PERSONAL COMPUTING, INC.

☐ Relay Gold

Transfers files, exchanges messages and runs other programs concurrently. Script language for automating operations. Transfers files with IBM mainframe running RELAY/VM and RELAY/TSO. Provides hardware-free 3270 emulation with RELAY/3270.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 20,000 since 1985 ☐ Cost: $225

WINTERHALTER, INC.

☐ Applications Interface Module

Includes user-callable library routines that provide interface to mainframe from user-written PC program. Writes applications to send/receive blocks of data using BSC protocol. Available on 3780 BSC, 3270 BSC and 3270 SNA programs. Requires DataTalker PC Plus or DataTalker II.

IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 1,000

WOW ENTERPRISES

☐ Missing (Async) Link

Intended for use with IBM's 3101 Emulation Program. Converts CMS and TSO host files to and from the same transmission format as is supported by the FILECONV utility supplied by the IBM program. Conversion data compression, CRC check sum characters and 4-for-3 encoding binary data.

IBM PC, XT/370, AT/370 ☐ 64 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $96

XEROX COMPUTER SERVICES
(division of Xerox Corp.)

☐ **Knowledge Worker**
Downloads and uploads data from production data base to IBM PC. Reformats information for use on PC in planning, modeling and reporting. Works with various spreadsheet programs. Supports DIF, SYLK, dBASE, CSV and ASCII formats.
IBM PC, XT, AT ☐ 250 KB req. ☐ Copies sold: 75 since 1985 ☐ Cost: $2,500-$3,000

COMMUNICATIONS— NETWORK MANAGEMENT

ACCENT SYSTEMS CORP.

☐ **XNS Protocols (XEROX Network Systems)**
Develops applications for communication among heterogeneous workstations, computers and other devices via one or more LANs. User can name, locate and utilize services in distributed environment. Implements ISO and OSI model. Supports flow control, message routing, error reporting and diagnostic procedures.
IBM PC

ALLOY COMPUTER PRODUCTS, INC.
SEE AD ON PAGE 129

☐ **ATNX**
Network executive system. Allows disk caching for data access. Supports high-capacity hard disk volumes and high-speed interprocessor datagramming communications.
IBM PC, XT, AT ☐ Cost: $295

☐ **MTNX**
Network executive system. Allows disk caching for data access. Supports high-capacity hard disk volumes and high-speed interprocessor communications. Multi-processing and multi-tasking capabilities.
IBM PC, XT, AT ☐ Cost: $395

☐ **NTNX**
Supports applications programs for Novell LANs including data bases and languages. Provides record/file locking controls necessary in multi-user environments. Includes global RAM disk caching for shared disk access.
IBM PC ☐ Cost: $395

☐ **RTNX (Real Time Network Executive)**
Runs on host PC to load user processors with DOS. Includes print spooler.
IBM PC, XT, AT

ALTOS COMPUTER SYSTEMS

☐ **PC Path**
Connects PCs to network. Stores data/programs in password protected partitions. Stores and retrieves data/programs from multiple file servers.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $395

AMERICAN INTERNATIONAL COMMUNICATION CORP.

☐ **Network Navigator**
Networking/management. Host defined session, routing and distribution, audit trails, data conversion, user exits for special processing, invokes host functions transparently to end-user, dial-up communications, automatic recovery, error free file transfer, unattended delayed transmission and support for any type of data.
IBM PC, XT, AT ☐ Introduced: 1985 ☐ Cost: $80,000

APPLIED KNOWLEDGE GROUPS, INC.

☐ **Knowledge Network**
Disk and printer sharing among computers. Creates virtual devices by accessing devices or associated computers on LAN network. Supports printer sharing, file locking and electronic mail.
IBM PC ☐ 128 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $99 per node

ARC DATA SYSTEMS, INC.

☐ **PC.25**
Links IBM PCs to other PCs, mainframes or minicomputers via X.25 facilities. Certified on TELENET, TYMNET or UNINET. Supports 32 simultaneous connections. HDLC/LAPB link level protocol. Includes XTERM terminal emulator and XCOPY for file transfer. Operates under DESQview and TopView multitasking environments.
IBM PC, XT, AT, 3270-PC ☐ 64 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $1,350-$1,850

ASHTON-TATE

☐ **dBASE III Plus LAN Pack**
Permits network-only access to dBASE III Plus. Enables 3 additional users to join network.
IBM PC, XT, AT ☐ Cost: $995

☐ **MultiMate for Local Area Networks**
IBM PC

AST RESEARCH, INC.
SEE AD ON PAGES 161/172/173/174/175

☐ **AST-NETBIOS Option**
Adds IBM NETBIOS compatibility to AST LANs. Supports peripheral devices and shares resources. Inter-level task queuing, data pointer passing and communications protocols. Contains 18 user-programmable parameters. Supports node naming, nondedicated servers, electronic messaging and file locking if used with PC network program.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $195

☐ **Network Program**
Provides menu-driven interface to manage LAN and share data files/peripherals using DOS-like commands. Offers server and workstation utilities. Includes electronic mail for communicating with other network users.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1986 ☐ Cost: $75

AT&T INFORMATION SYSTEMS

☐ **StarLAN**
Plug-in board. Network for PCs, workstations and file servers in departmental group. Connects to ISN (Information Systems Network) to gain access to other StarLANs, other PCs, modem pool or mainframes attached to corporate ISN network. Serves 20 to 200 active work stations.
IBM PC

AVANT-GARDE COMPUTING, INC.

☐ **Net/Link**
Network planning and analysis system. Sorts and charts network performance data. Provides statistics including response time, internal time, in/out time, polling latency, transaction/character counts, errors, failures, time-outs and no polls. Creates color graphics. Requires Lotus 1-2-3.
IBM PC ☐ 192 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $10,000

BAILEY CONTROLS CO.
(division of the Babcock & Wilcox Co.)

☐ **Network 90 Operations Management System**
Enables user to monitor, control and modify process conditions in Network 90 system from a personal computer. Provides real-time data needed to support management decisions.
IBM PC, XT, AT

☐ **Network 90 Tool Kit**
Monitors processes controlled by Bailey Controls' Network 90 system. Displays data in bar chart format, saves 500 data points for future reference, and performs remote monitoring via modem or telephone PBX equipment.
IBM PC, XT ☐ 256 KB req.

BANYAN SYSTEMS, INC.

☐ **VINES (VIrtual NEtworking Software)**
Builds department/corporate-wide networks. Shares printers, tape units, disk drives and communications controllers. Provides file sharing, electronic mail, network administration, time/date
IBM PC

☐ **VINES/286**
Converts IBM AT into multi-function network server for WAN, host access, server-to-server communications, resource sharing and NetBIOS support.
IBM AT ☐ 512 KB req. ☐ Cost: $1,895

CAERE CORP.

☐ **SNIP (Scan-Net Interface Program)**
Develops communication applications between Scan-Net network and IBM PC. Provides 1-way and 2-way communication. Includes device driver and 11 programming tools. Supports program development in Turbo, Pascal, IBM Pascal, Microsoft Pascal, Microsoft C, IBM BASIC, RM/COBOL and 8088 Assembly.
IBM PC ☐ 256 KB req. ☐ Copies sold: 32 since 1986 ☐ Cost: $500

COMMUNICATION MACHINERY CORP.

☐ **CCITT X.25 (1984) LAPB (Link Access Protocol Balanced)**
Data link layer protocol. LAPB implemented with extended sequence numbering. Compatible with worldwide public data networks.
IBM PC, AT

☐ **Connectionless Internet**
Internetwork layer protocol. MAP 2.1 compatible network/internetwork addressing and routing service. Supports fragmentation, reassembly and inactive layer subset.
IBM PC, AT

☐ **LLC Class 1 (Logical Link Control IEEE 802.2)**
Data link layer protocol. MAP 2.1 compatible. Point-to-point frame control procedure adaptable to most IEEE 802-class LAN medium.
IBM PC, AT

☐ **PC Netbios**
Session layer protocol. Emulates IBM PC Netbios used in PC network. Compatible with PC network application programs at 5C level. Provides session management and name translation.
IBM PC

☐ **QM100 TCP-IP Protocol**
TCP-IP protocol for local or long haul networks. Includes TCP, IP, UDP, ARP, ICMP, FTP, TELENET and SMTP. Interfaces with Ethernet on X.25 networks.
☐ 16 KB req. ☐ Copies sold: 125 since 1984 ☐ Cost: $20,000

☐ **TCP-IP Upper Level Protocol**
TCP-IP protocol for LAN used on Ethernet. Includes TCP, IP, UDP, ARP, ICMP, SMTP, FTP and TELENET.
IBM PC, AT ☐ 128 KB req. ☐ Copies sold: 3,500 since 1984 ☐ Cost: $1,000-$6,000

☐ **XNS Upper Level Protocol**
Implements XNS design concept. Provides network devices for electronic mail, virtual terminal and file transfer. Includes internetwork datagram, sequenced packet, packet exchange, rotating information, echo and error protocols.
IBM PC, AT ☐ Cost: $1,200

COMPUTER ASSOCIATES INTERNATIONAL, INC.
Micro Products Division

☐ **EasyPlus Network Manager**
LAN network manager for Computer Associates' EasyBusiness Systems Plus Series under EasyPlus. Allows up to 4 users to share accounting, productivity and data base information.
IBM XT, AT, 3270-PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $395-$595

COMWARE INTERNATIONAL

☐ **File/34-38**
Supports packet-switching networks such as GTE-Telenet, Tymnet, Uninet, Infonet and Autonet. Communicates through Systar's PC Elf and runs in conjunction with Systar's Gateway 34/38. Interactively stores files or retrieves files from the S/34, S/36 or S/38. Includes built-in error checking protocol.
IBM PC ☐ Cost: $750

CONNECTIONS

☐ MNDS
Network design and modeling tool.
IBM PC, XT, AT

CONTEL INFORMATION SYSTEMS, INC.

(subsidiary of Continental Telecom, Inc.)

☐ MIND-Inventory
Controls and plans networks. Provides up to date model of network including equipment, circuits, connections and paths. Interfaces Contel's MIND-Pricer.
IBM PC, XT ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $4,950

COSMOS, INC.

☐ Bump Disk
Lets developer add 4 users at a time on LAN to any Revelation-based product. Each system can be bumped any number of times until desired configuration is reached. Each bump disk works only once. Networks include Novell, 3Com, PCNet and Netstar.
IBM PC ☐ Cost: $495

DATEM, LTD.

☐ dDCM 820; dDCM 820/R; dDCM 820/Q
Provides utility routines for developing, debugging and maintaining distributed control networks. Based on Datem's DCM and DCB bitbus compatible products. Controls dDCM 810 device table entries. Supports network configuration mode, Intel-defined RAC task and upload/download of HEX formatted files. Menu-driven.
IBM PC ☐ 64 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $499

DIGITAL COMMUNICATIONS ASSOCIATES, INC. (DCA)

☐ Network Design System
Allows network manager to permanently redefine network configurations that were temporary modifications made under DCA's Network Control Concentrator.
IBM PC ☐ Introduced: 1983 ☐ Cost: $4,995

☐ NMS (Network Management System)
Allows IBM XT or AT to serve as intelligent monitoring/reporting device for Series 300 network processors. Provides data base containing statistical history of network. Calculates graphics. Generates reports including trunk utilization, trunk error rate, port usage summary and connection summary.
IBM XT, AT ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $9,995-$19,995

DISC

☐ DBL/NetWare
DIBOL superset. Allows DIBOL and DBL based application programs to be ported to MS-DOS, Novell's NetWare, UNIX, XENIX, TSX-Plus, VMS, RSX and RSTS OSs. Includes virtual memory, multi-key ISAM, fixed point decimal data type, and terminal independent screen functions.
IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $1,249

DP COMMUNICATIONS CORP.

☐ Cable Manager
Tracks, documents and displays cabling systems. Generates multi-color plots. Used for national/global networks and LANs. Oracle DBMS compatible. Basic Inventory, Design, Cable Installation, Termination, Path Tracing and Cable Maintenance modules.
IBM PC, XT, AT

EICON TECHNOLOGY CORP.

☐ Access/X.25
X.25, X.28, X.29 and X.3-compatible communication server for NETBIOS compatible LANs which support 32 remote connections at speeds up to 64K bps. Defines end-to-end protocol which emulates async and 3270-type terminals. Provides PC-to-PC, PC-to-mainframe and LAN-to-mainframe communications.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 75 since 1985 ☐ Cost: $995-$1,395

☐ Attach/X.25
X.25-compatible LAN-to-LAN, PC-to-LAN and PC-to-PC communications. Enhances IBM's PC Network, NETBIOS and Microsoft networks by allowing each to interconnect with LANs in several locations. Using a single command, servers from remote LANs can be connected and used in same way as local servers.
IBM PC ☐ 320 KB req. ☐ Copies sold: 25 since 1985 ☐ Cost: $1,195

EXCELAN, INC.

☐ Exos 8010
Implements DOD standard ARPANET TCP/IP protocols to connect UNIX-based host systems to Ethernet networks. Includes I/O driver, application programming interface, network administration utilities and network application utilities such as file transfer, virtual terminal connection and remote command execution.
IBM PC, AT ☐ 128 KB req. ☐ Copies sold: 190 since 1984 ☐ Cost: $13,000

☐ Exos 8011
Implements DOD standard ARPANET TCP/IP protocols to connect XENIX-based IBM AT supermicros to Ethernet networks. Includes I/O driver, application programming interface, network administration utilities and network application utilities such as file transfer, virtual terminal connection and remote command execution.
IBM PC, AT/XENIX ☐ 128 KB req. ☐ Copies sold: 40 since 1985 ☐ Cost: $595

FRONTIER TECHNOLOGIES CORP.

☐ PCX.25, Level III
Runs on Frontier's Communication Board. Implements all three levels of CCITT X.25 specification with 1980 amendments. Allows handshaking signals for communication through modems. Complies with X.25 requirements for LAPB link access procedure. Allows PCs connected through X.25 network to communicate with each other.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $695

GANDALF DATA, INC.

(subsidiary of Gandalf Technologies, Inc.)

☐ NetScan 2000
Monitors LAN or wide area data network from central workstation. Intended for use with networks of Gandalf's switching and multiplexing products. Collects data from various points, scans data for alarm conditions and enters data into daily event log. Generates data and statistical summaries.
IBM XT ☐ Cost: $2,000

GATEWAY COMMUNICATIONS, INC.

☐ G/Netbios
Emulates IBM's NETBIOS. Allows G/NET to run IBM PC and Microsoft MS-Net network programs OS and applications. Includes session level interface. Implements name management protocol. Supports session/link layer commands and 4 NETBIOS command types.
IBM PC, XT, AT ☐ Cost: $195

☐ G/SNAnet
Provides multi-user LAN-to-mainframe gateway for PCs connected to G/NET LAN by emulating 3270/3770 device selectively. Allows user to switch between 3270/3770 and local PCDOS or LAN applications. File transfer capabilities.
IBM PC, XT, AT ☐ 192 KB req.

☐ G/X25net
Provides multi-user X.25 gateway for users connected to G/NET LAN or other LANs independent of network OS. Serves as packet assembler/disassembler interface over trunk lines or PDN. Provides LAN-to-mainframe X.25 link or LAN-to-LAN bridge.
IBM PC, XT, AT

☐ G/X25pc
Provides X.25 communications interface for standalone PC. Serves as packet assembler/disassembler interface over trunk lines or PDN. Allows remote PC to act as if it were attached to LAN. Provides LAN-to-mainframe X.25 link or LAN-to-LAN bridge. Single-user.
IBM PC, XT, AT

GENERAL ELECTRIC INFORMATION SERVICES CO. (GEISCO)

(subsidiary of General Electric Co.)

☐ TSI (The Systems Interface)
Provides communications between PCs and public network systems.
IBM PC ☐ Cost: $50

H & A COMPUTER SYSTEMS

☐ RSS/PC
Allows PCs, Series/1s and mainframes to interact under same network. Includes copy utility, remote support, security, background processing and record access.
IBM PC ☐ 50 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $400

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Asynchronous Communications Server
IBM no. 1642-003. Provides capability for IBM PCs on IBM Token-Ring Network or IBM PC Network to access ASCII applications via switched communication lines. Provides access to Rolm CBX II, PBX or to public switched network.
IBM PC, XT, AT ☐ Cost: $495

☐ Business Adviser - Network Extension Edition
IBM no. 6466-992. Permits an additional user to share accounting information and enter data for one or more companies when one or more Business Adviser editions are installed on the server on IBM Token-Ring or IBM PC Networks.
IBM PC, XT, AT ☐ 384 KB req. ☐ Cost: $245

☐ Matrix Switch Host Facility
IBM no. 5665-428. Integrates network reconfiguration and monitoring functions of IBM 3728 Communication Control Matrix Switch units into centralized network management environment. Collects diagnostic information from local and remote 3728 installations.
IBM XT ☐ Cost: $6,000

☐ NetWare Bridge
IBM no. 6404-011. Allows IBM PC Network and IBM PC Cluster or 2 IBM PC Networks to be connected.
IBM PC, XT, AT, Portable PC, PCjr ☐ 256 KB req. ☐ Cost: $395

☐ PC Local Area Network Program
IBM no. 6024-195. Requires DOS 3.2. TopView compatible. Provides file, print and message server functions. Supports networks utilizing IBM PCs attached to IBM PC Network. Provides resource sharing, multiple file servers, file transfer, message send/receive and message broadcast.
IBM PC, XT, Portable PC, AT ☐ Cost: $125

☐ PC Network Analysis Program
IBM no. 6489-762. Network activity log/monitor and problem condition identifier. Reviews various reports on network utilization and traffic. Optionally converts log files to ASCII format for use with other user-provided analysis programs.
IBM PC, XT, AT, Portable PC ☐ 256 KB req. ☐ Cost: $1,295

☐ Ring-to-Ring Bridge
IBM Token-Ring Network bridge program. Allows multiple token-rings to be connected and to appear as single network.
IBM AT ☐ Cost: $1,495

☐ Token-Ring Network Manager
Enables operator to evaluate single ring and perform problem determination and error monitoring using dedicated PC. Assists operator in taking corrective measures to improve network operation.
IBM PC ☐ Cost: $1,495

☐ **Token-Ring Network Manager**
IBM no. 6476-046. Assists user in problem determination and error recovery. Monitors for hard and soft failures. Notifies operator of failures requiring immediate attention. Supports up to 260 attaching stations per single ring. Identifies probable cause and source of network failures.
IBM PC ☐ Cost: $1,495

☐ **Token-Ring Network NETBIOS (Network Basic Input/Output System)**
IBM no. 6467-037. Provides NETBIOS programming interface for IBM Token-Ring Network. Allows application programs to be written for operation on IBM Token-Ring Network and IBM PC network.
IBM PC, XT, AT, Portable PC ☐ Cost: $35

☐ **Token-Ring Network/IBM PC Network Interconnect Program**
IBM no. 6467-036. Permits exchange of information between IBM PCs attached to IBM Token-Ring Network and IBM PCs attached to IBM PC Network.
IBM XT, AT ☐ 256 KB req. ☐ Cost: $495

☐ **3728 Support Processor**
IBM no. 5668-787. For IBM 3728 Communication Control Matrix Switch which links controllers, modems and lines, and configures, reconfigures, monitors and tests data networks from central locations via operator control terminals.
IBM XT ☐ 640 KB req. ☐ Cost: $12,000

IDEASSOCIATES, INC.

☐ **IDEAshare**
Allows small businesses to establish a resource sharing center. Compatible with networked versions of Lotus 1-2-3, Symphony, WordStar, FinalWord and MultiMate.
IBM PC, XT, AT, Portable PC, PCjr ☐ 256 KB req. ☐ Cost: $595

INTEL CORP.

☐ **Open Net NRM**
Networked distributed processing environment for microprocessor development. Provides Ethernet-based communication including Open Net. Allows users to share network resources. Includes hierarchical file system, archival utilities, software version control system and generation program.
IBM PC ☐ Cost: $24,000

☐ **XENIX Open Net Networking Software**
Provides transparent remote file access across LAN between XENIX systems and PCs. Runs on Ethernet controllers and ISO Class 4 transport systems.
IBM PC, AT ☐ 1,000 KB req. ☐ Introduced: 1985 ☐ Cost: $2,500

MASTERLINK

☐ **VersaNet**
PC-to-PC communication system. Provides hard disk sharing, file transfers, printer sharing and spooling, modem sharing and electronic mail. External high-speed upgrade box (HUB) upgrades signals from PC's serial port and sends them up to 1,000 feet at about 50 cps.
IBM PC ☐ Introduced: 1985

MBP SOFTWARE AND SYSTEMS TECHNOLOGY, INC.

SEE AD ON PAGE 293

☐ **SNA LU6.2 Communications Software**
IBM 3270, 3770, LU6.2/APPC emulating send-receive node. Supports base set and extended LU6.2 verbs. Acts as 3274 cluster controller with Displaywriter emulation. Gateway into IBM distributed networks.
IBM PC

☐ **SNADS Communication Software**
Extends LU6.2 verbs and DIA architecture to distribution services of SNADS. Includes PU2.1 connection to provide peer-to-peer communications within SNA network. Transparent to user interface.
IBM PC ☐ 512 KB req. ☐ Introduced: 1986

METAPATH, INC.

☐ **NMS-1**
Designed for use with Metapath data switch products. Configures network ports from central point, displays usage statistics, defines security access and performs diagnostic tests.
IBM PC ☐ Cost: $1,500

MICOM/INTERLAN, INC.

(subsidiary of MICOM Systems, Inc.)

☐ **NP621 TCP/IP XENIX**
DoD TCP/IP standard protocols for high-level applications on Ethernet. For use with MICOM/Interlan's NP600 Protocol Processor.
IBM AT/XENIX ☐ Introduced: 1986 ☐ Cost: $1,390

☐ **NS2095 Device Driver for IBM PCs**
Interface between NI5010 and higher-level network applications. Packets are passed between application and driver via defined data structures in memory. Multi-cast, broadcast and protocol filtering. Features transceiver and network loopback tests.
IBM PC, XT, AT ☐ 4 KB req. ☐ Introduced: 1986 ☐ Cost: $200

MICRO BUSINESS APPLICATIONS, INC.

☐ **Network Interface**
Allows PCDOS and MSDOS to run on networks utilizing Novell's NetWare. Supports spooling, file and record locking, and data and index file updating.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $595

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ **Microsoft Networks**
Enables users to share system resources such as files, disks and printers within a networked environment. Requires a LAN card and a transport interface software.
IBM PC ☐ 192 KB req.

MODCOMP

☐ **PCLink Real-Time Network**
Real-time networking designed for process control and data acquisition. Continuous multi-link scanning enables IBM PCs to track and respond to real-time process dynamics from each MODCOMP system, even while unattended. Accesses temperatures, pressures, flow rates and stream compositions.
IBM PC, XT, Portable PC ☐ 256 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $4,500-$6,000

NCR CORP.

☐ **Decision Net**
Shares and backs up files, spools files to network printer, accesses central data bases, mails messages and provides several levels of security. Works within framework of the available networked host OSs.
IBM PC

☐ **Decision Net/Decision Mate V**
IBM PC ☐ 64 KB req.

☐ **Decision Net/IBM PC**
IBM PC, XT ☐ 128 KB req.

NESTAR SYSTEMS, INC.

☐ **File Transfer Server**
Allows remote links to other Nestar networks within same location and remote locations. Links single-station sites without a network.
IBM AT ☐ 64 KB req. ☐ Copies sold: 1,500 since 1983 ☐ Cost: $395

☐ **Print Server**
Print spooling. Allows Nestar PLAN Series users to share printers. Attaches 6 printers of varying types to 1 print server. Connects print server to several networks, accessing same printer. Integrates with Messenger and File Transfer Server.
IBM PC, AT ☐ 64 KB req. ☐ Cost: $500

NETWORK INNOVATIONS CORP.

☐ **Multiplex**
PC-to-UNIX data base link. Links PCs to data bases on multiuser systems. Transfers files. Manages PC and UNIX network files. Emulates VT100 terminals. User interface resembles Lotus 1-2-3. Supports 4 UNIX DBMSs. Operates on local/remote async links and LANS.
IBM AT ☐ 256 KB req. ☐ Copies sold: 1,500 since 1985 ☐ Cost: $695

NETWORK SOFTWARE ASSOCIATES, INC.

☐ **AdaptSNA LU 6.2/APPC**
Communicates and transfers files as LU 6.2 device in IBM SNA/SDLC network. Provides IBM-defined APPC functions. Works with PC-to-mainframe and PC-to-PC communications applications.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 10 since 1986 ☐ Cost: $795

NOVELL, INC.

☐ **ACS (Asynchronous Communications Server)**
Allows 12 simultaneous remote connections between async devices. Supports most modems. Auto-dial/-answer. Each WNIM port acts independently of others and supplies 4 connections. Provides async program interface.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $1,490

☐ **Netware Bridge**
Allows dedicated/nondedicated workstation on LAN running Advanced Netware 2.0 and up to 4 like/unlike network interface cards. Permits LANs to support multiple bridges. Users on different LANs can communicate and access one another's file servers.
IBM PC, XT, AT ☐ Cost: $395

OPEN SYSTEMS, INC.

(subsidiary of Uccel Corp.)

☐ **Network**
Converts single-user computer to multi-terminal LAN. Provides record locking control. Multi-level, multi-company passwords. Shares programs and information on hard disk permitting access from any workstation on network.
IBM PC, XT, AT ☐ Introduced: 1984 ☐ Cost: $695-$1,795

ORCHID TECHNOLOGY, INC.

☐ **PCnet**
Reviewed Sep/Oct 1983 p. 50.
Provides IBM PC compatible LAN. Shares all peripherals. Operates transparently.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 10,000 since 1986 ☐ Cost: $100

PACKET/PC, INC.

☐ **Packet/3270**
SNA 3270 emulator. Supports dial-up communications via packet networks. Supports standard keyboard/CRT SNA functions on PC. Provides application program interface, end-to-end error detection/retransmission, 3270 file transfer, data compression and 3279 4-color support.
IBM PC ☐ 256 KB req. ☐ Copies sold: 9 since 1985 ☐ Cost: $145-$295

PARADYNE CORP.

☐ **Analysis Entre**
Provides monitoring and diagnostics testing for small networks. Compatible with modems operating at 2400, 4800, 9600, 14.4K, 16.8K and 19.2K bps. Displays results in descriptive English. Performs surveillance over an out-of-band, noninterfering diagnostic channel. Maintains event file for retaining historical information.
IBM PC ☐ Cost: $1,195

RABBIT SOFTWARE CORP.

☐ **Network 3270-Plus**
LANs can communicate simultaneously with mainframes. Access to file transfer and handling, windowing and security.
IBM PC ☐ 512 KB req.

RATIONAL DATA SYSTEMS, INC.

☐ **PC/VS**
Ethernet-compatible LAN. Links DG ECLIPSE MV/Series minicomputers with IBM PCs and compatibles. Provides virtual disks, print service, file transfer, remote IPC interface, optional terminal emulation and CEO mail notification.
IBM PC, XT, AT, Portable PC, 3270-PC ☐ Copies sold: 20 since 1985 ☐ Cost: $3,000-$10,500

SERVER TECHNOLOGY

☐ **EasyLAN**
Shares printers, disk drives and information between PCs. Performs communications, file transfers and printer operations while each PC simultaneously performs DOS applications. Protects communications operations by password assigned to each PC. Supports modems, dial-up lines and digital PBXs.
IBM PC ☐ Cost: $80-180

THE SOFTWARE LINK, INC.

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☐ **LANLink**
Software-driven LAN. Logic resides on server and satellite diskettes. Transforms DOS into a multi-user networking system. Provides hard-disk back-up and access to files, programs and peripherals. Record-locking and file sharing. Supports IBM NETBIOS communications interface standard.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 15,000 since 1985 ☐ Cost: $495

SOFTWARE RESEARCH CORP.

☐ **SNE/FTF (Strategic Network Environment/File Transfer Facility)**
Transfers VSAM, PDS, QSAM and GDG data sets between MVS environments, from/to DASD, and magnetic tape devices. Transfers sequential and indexed sequential files. Supports async data delivery services. Recovery/integrity facilities, notification management, centralized control and file handling management.
IBM PC ☐ 4,000 KB req. ☐ Copies sold: 20 since 1985

SOFTWARE SYNERGY, INC.

☐ **Respond/Net**
Lets PCs share information, peripherals, electronic mail, and communication resources through independent modules that run in individual nodes of network. Utilizes Ethernet. Files may be shared, accessed and updated by authorized users. Routes work to printer. Includes electronic mail facility.
IBM PC ☐ 256 KB req. ☐ Cost: $710

SPERRY CORP.

Information Systems Group

☐ **Usernet Software/86 Network Operating System**
Allows access to common program files and data files, prints documents on shareable network printers and sends messages electronically between workstations. Supports multiple data/print servers.
IBM PC ☐ Cost: $1,595

☐ **Usernet 3270 SNA Protocol Communications Server**
Allows multiple Sperry or IBM PCs connected via Usernet to operate under IBM's SNA. Supports 32 simultaneous application sessions. Supports mainframe connectivity over dial-up, leased or point-to-point and multi-dropped lines at 9,600 bps.
IBM PC ☐ Cost: $1,995-$3,995

STANDARD MICROSYSTEMS CORP.

☐ **Advanced NetWare/SM**
Supports up to 50 workstations per file server. A file server supports up to 5 printers which may be used by all nodes on the network.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $1,595

SUN MICROSYSTEMS, INC.

☐ **NFS (Network File System)**
Files may be accessed and shared by users on other machines on network. Remote procedure call authenticates authorizations for file access. Changes are made to one copy of files residing on NFS server.
IBM PC ☐ Copies sold: 10,000 since 1985 ☐ Cost: $8,000

☐ **PC-NFS**
Converts local MS-DOS file names to network compatible NFS pathnames. Allows transparent file access among PCs and other computers using NFS. DOS commands access files from other computers on network.
IBM PC ☐ Cost: $255 and up

THE SYSTEMS CENTER

☐ **NDM-PC (Network Data Mover-PC)**
Distributes files, text, graphics, binary and programs throughout SNA network. Schedules unattended data transmission and distributes any program information updates to any PC on network. Handles electronic mail and distribution of documents. Automatic host application initiation available.
IBM PC ☐ 196 KB req. ☐ Introduced: 1984 ☐ Cost: $300

T-BAR, INC.

☐ **Data System Control**
Controls T-Bar DSTA 2001 distributed switched matrices.
IBM PC ☐ 640 KB req. ☐ Introduced: 1985 ☐ Cost: $4,500

TALLGRASS TECHNOLOGIES CORP.

SEE AD ON PAGE 137

☐ **TG-8000AT**
Converts IBM AT or compatible into multi-function network server. Provides integrated communications and multi-LAN links. Includes file/peripheral sharing, gateways between similar/dissimilar LANs, multiple remote communications links and network diagnostics. Accesses minis, mainframes and larger networks. Global naming mechanism tracks network resources.
IBM AT ☐ Cost: $1,895 and up

TCS SOFTWARE, INC.

☐ **Q*Net**
Works with networking environments. Stores data bases on multiple servers. Shares printers and hard disks. Provides user-defined security. For use with TCS Total Accounting System.
IBM PC, AT, Convertible ☐ 256 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $795

TECHLAND SYSTEMS, INC.

(subsidiary of York Research Corp.)

☐ **BlueLynx 3270 Gateway**
Allows single LAN IBM AT, PC or XT to act as a 3274 controller and communicate in sync mode with IBM mainframes through modems. Distributes 32 supported mainframe sessions to other IBM ATs, PCs or XTs in LAN.
IBM AT ☐ Introduced: 1984 ☐ Cost: $1,195

TECHNOLOGY CONCEPTS, INC.

☐ **CommUnity**
Packet-oriented networking structure. Uses virtual circuits, routing, network management, file transfer, virtual terminal and program interface. Coexists with other networks. Layered hierarchy based on model for open system interconnection. Compatible with DECnet Phase IV.
IBM PC ☐ 1,000 KB req. ☐ Copies sold: 5 since 1985

TEXAS INSTRUMENTS

☐ **BSA (Business System Access)**
Allows TI PCs to access Business Systems over Ethernet operating under DNIO 2.0 and DNOS 1.2.1. Provides file transfer.
IBM PC ☐ 256 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $195

☐ **Ether Series User Kit**
Interconnects TI Professional Computers and IBM PCs into Ethernet network. Requires EtherLink board and EtherShare Server Kit.
IBM PC ☐ 128 KB req. ☐ Copies sold: 3,000 since 1984 ☐ $50

☐ **EtherPrint Server Kit**
Allows multiple TI Professional Computer users to share printers on Ethernet network. Requires EtherLink board and EtherShare Server Kit.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ $195

☐ **EtherShare Server Kit**
Shares fixed disk resources in Ethernet network. Requires EtherLink board.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $395

3COM CORP.

☐ **EtherPrint**
Reviewed Jan 1984 p. 55.
Allows network users to share common printers. Provides print spooling.
IBM PC ☐ Cost: $195

☐ **EtherShare**
Reviewed Jan 1984 p. 54.
Allows communication among PC users connected to the network. Allows IBM users to share hard disk storage on one or more servers.
IBM PC ☐ 64 KB req. ☐ Cost: $450

☐ **EtherTerm**
Connects IBM and compatible PCs on a LAN to mainframes and minis. Connects through telephone lines or public data networks.
IBM PC ☐ Cost: $700

☐ **3+Path**
Allows EtherShare/EtherPrint users to migrate to 3+Share and Ethermail users to 3+Mail. Allows 3+ workstation to concurrently access Etherseries and 3+ servers.
IBM PC, XT, AT ☐ 320 KB req. ☐ Introduced: 1986 ☐ Cost: $500

☐ **3+Remote**
Permits remote PCs to dial in to network via modem. Accesses network data and printers. Provides electronic mail. Runs 3+ applications as if they are on-the-net. Performs error checking. Retransmits lost packets across async communication link assuring data integrity.
IBM PC, XT, AT ☐ 384 KB req. ☐ Introduced: 1986 ☐ Cost: $295

☐ **3+Route**
Extends resource and communications sharing beyond single 3+ network. Two or more networks can be inter connected via modems and telephone lines. Accesses resources across internetwork links by name. Bases route service XNS protocols. Works with 3+Share and Mail.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $1,250

☐ **3+Share**
Network OS for 3Com's 3+ network products. Provides multi-user file service, spooled print service, directory name service for identifying users, services and servers and dial-in remote service for dial-in network access from standalone PCs. Includes EtherPath.
IBM PC, XT, AT ☐ 320 KB req. ☐ Introduced: 1986 ☐ Cost: $550

TIARA COMPUTER SYSTEMS, INC.

☐ **TiaraLink**
LAN. Includes chat utility for network messaging and IAP (In-Application Printing) utility for accessing network printers.
IBM PC, XT, AT ☐ Cost: $500

TIMEPLEX, INC.

☐ **Prophet**
Network management system for MICROPLEXER networks. Offers single point control of overall network or individual ports. Checks dedicated channels, type of multiplexer, number of available ports and port module PROMs.
IBM XT, AT ☐ 384 KB req. ☐ Introduced: 1984 ☐ Cost: $1,500

☐ **Prophet Network Management System for the LINK/1 System**
Network configuration, management and diagnostics for LINK/1-based networks. Single point network control. Defines parameters for each exchange or node before connection. Checks dedicated channels, type of multiplexer, number of available ports and port module PROMs.
IBM XT, AT ☐ 384 KB req. ☐ Introduced: 1985 ☐ Cost: $1,500

TITN, INC.

☐ **QLLC**
Qualified logical link control. Allows SNA-to-SNA connections over X.25 packet networks.
IBM PC ☐ 128 KB req.

☐ **Twice PC X.25**
Enables user to communicate with remote X.25 DTE or host at process level through public or private packet-switching network. Provides multiple simultaneous virtual circuit operations across one physical line.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 50 since 1985

☐ **Twice TITN Worldwide ISO Communication Expertise**
Provides X.25 procedure portable package for any PSN. PAD emulation, PAD management and TELETEX CCITT Document Transmission packages are available.
IBM PC ☐ 64 KB req. ☐ Copies sold: 300 since 1979

☐ **Twice X.21 LAPB**
Allows target machine access to circuit switching networks and earth or satellite data networks. Permits 2 host communication through circuit switched data network.
IBM PC ☐ 60 KB req. ☐ Copies sold: 75 since 1984

TORUS SYSTEMS, INC.

☐ **RAG (Remote Access Gateway)**
Configures Tapestry network to support RNL users. Allows unlimited workstations to act as undedicated remote gateway servers. Requires auto-answer modem for each station serving as remote gateway.
IBM PC, XT, AT ☐ Cost: $250

☐ **Tapestry**
Transforms LAN into office automation system. Includes electronic mail and file/printer sharing. Provides network intelligence to manage telephones, connection to mainframes and communication with remotes PCs. Utilizes icon-based user interface concepts. Supports IBM Token-Ring, PC Network and 3Com Ethernet.
IBM PC, XT, AT ☐ 384 KB req. ☐ Cost: $495

VIANETIX, INC.

☐ **ViaNet**
LAN link for micros and minis. Works with OS and adapter board to link 1 or more hardware nodes. Allows all disks, peripherals, programs and data files to be shared without dedicated server. Supplements ARCnet, Ethernet, IBM's Token-Ring network, Omninet and Starlan.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984

VIRTUAL MICROSYSTEMS, INC.

☐ **V-Drive**
Provides networking interface between PCs and DEC VAXs. Allows PC users connected to Ethernet network running DECnet to use VAXs/MicroVAXs as file servers. Includes menu-driven interface, virtual disk capability, VT220 terminal emulation and toggle switch between VMS and PCDOS. Uses TCI's CommUnity.
IBM PC

WANG LABORATORIES, INC.

☐ **PC Local Communications File Sharer**
Allows a Wang Professional to access the larger disk capacity of a Wang OIS or VS/IIS system.
IBM PC ☐ Cost: $500

☐ **PC Professional Network Services for Local Interconnect Option**
Uses token passing to access another Wang Professional's data and peripherals.
IBM PC ☐ Cost: $500

WINTERHALTER, INC.

☐ **DataTalker X.25**
Allows microcomputer to interface with private and public data networks via X.25 protocol, Level II and Level III. Requires DataTalker PC Plus or DataTalker II.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $495

WOLLONGONG GROUP, INC.

☐ **Win/PC**
Allows PCs to participate in LANs or WANs. Conforms to standard TCP/IP DOD protocols. Supports VT100 emulation, file transfer, transparent operation and network activity monitoring. Interfaces Ethernet or IEEE LANs.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $895

WORDTECH SYSTEMS, INC.

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☐ **NetWorker**
File server module. Controls record/file locking of dBASE III Plus data on LANs supporting DOS 3.1 protocols. Controls locking for dBXL. Operates in transparent mode. Works with dBIII Compiler. Can be used with diskless workstations.
IBM PC ☐ Cost: $99

X.DOT CORP.

☐ **PAD**
Interactive, portable C language interface which connects async terminals to public or private packet switching networks. Implements the published 1980 CCITT Recommendations X.3, X.28 and X.29.
IBM PC ☐ 72 KB req. ☐ Introduced: 1985 ☐ Cost: $20,000 and up

COMPILERS/LANGUAGES

ADDISON-WESLEY PUBLISHING CO., INC.

☐ **True BASIC**
IBM PC

ALCYON CORP.

☐ **C68, C68/020**
C compiler. Generates object code for MC68000, MC68010 and MC68020/68881. Includes macro processor, compiler, relocatable assembler, linking loader, support libraries and utilities. Generates programs which execute standalone or under OS control.
IBM PC ☐ 64 KB req. ☐ Copies sold: 680 since 1981 ☐ Cost: $1,495 (C68); $2,295-$3,495 (C68/020)

AMERICAN BUSINESS COMPUTER DEVELOPMENT SYSTEMS, INC.

☐ **Workstation Basic**
BASIC compiler/interpreter, command processor and utility programs. Features full-screen entry, array math, integrated ISAM support and interactive debugging capabilities. Compatible with Novell NetWare and IBM mainframe BASIC.
IBM XT ☐ 256 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $450-$695

AMERICAN PLANNING CORP.

☐ **APCBASIC**
Development compiler/interpreter processor. Utilities for scanning, developing and debugging. Facilities for dynamic dimensioning match capability, code merging/deleting and formatting I/O.
IBM PC ☐ 64 KB req. ☐ Copies sold: 2,000 since 1979 ☐ Cost: $249-$495

☐ **MegaBASIC**
Reviewed Jun 1986 p. 52.
Direct addressing of 1 MB of memory. Loads libraries of programs, subroutines and functions into memory executable from the running program with a single statement. Variable names up to 255 characters long, trace and edit functions and BCD arithmetic to eliminate rounding errors.
IBM PC, AT ☐ 128 KB req. ☐ Copies sold: 4,000 since 1983 ☐ Cost: $375

APPLIED TECHNOLOGY VENTURES, INC.

☐ **ATV/Basic**
Compiles programs written in PC or MS-BASIC. Translates source code into Assembly language on DEC VAX systems. Supports floating point hardware. Disables run-time subscript checking, tracing and error reporting. Performs mathematical functions in double precision.
IBM PC ☐ 128 KB req. ☐ Cost: $3,900

ARITY CORP.

☐ **Prolog Compiler and Interpreter**
Reviewed Jan 1986 p. 145.
Develops applications. Provides floating-point arithmetic, string support for text handling, text screen manipulation, interface to other programming languages, shell to MSDOS and definite clause grammar support.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $350-$795

ARTEK CORP.

☐ **ADA Compiler System**
Includes compiler, full-screen editor, interpreter/debugger, subprogram and generics library support, formatting numbers into character strings and redirected compiler output, linker/library manager and A-code disassembler. Meets 1983 Defense Department specifications.
IBM PC, AT ☐ 384 KB req. ☐ Cost: $495

AUSTEC, INC.

☐ **ACE COBOL**
GSA-certified, 32-bit, multi-user, high-level COBOL compiler. Applications transportable from machine to machine. Supports networking/native object formats and calls to other programming languages. Sequential, relative and ISAM methods. Uses ACEBridge file system. Screen handling facilities. Program development aids.
IBM PC

AUTOMATA DESIGN ASSOCIATES

☐ **Educational PROLOG**
Reviewed Jan 1986 p. 145.
Language system. Includes a debugging aid. User settable spy points permit selective tracing. Exhaustive tracing is available. Allows execution of programs or editors from within PROLOG.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $30

HAUPPAUGE COMPUTER WORKS, INC.
358 Veterans Memorial Highway,
Suite MSI
Commack, NY 11725
516-360-3827

HFT+ is a set of routines which use a math coprocessor to perform very high speed one and two dimensional fast Fourier Transforms. The forward and reverse transforms are usable with Microsoft and IBM Pascal, Fortran, BASIC and C.

C the Advantage.



Introducing the Lattice® MS-DOS C Compiler, Version 3.

There's never been a better time to buy Lattice C. Professional programmers the world over have made Lattice C the standard compiler for serious MS-DOS programming. Now Version 3 offers even more of the features that have made our previous versions so popular. Our new compiler features include:

ANSI language constructs including, *unsigned* as a modifier, *void* data type, *enum* data type, structure assignments, structure arguments, structure returns, and argument type checking.

The compiler also incorporates improved code generation, more efficient stack overflow checking, in-line 8087 code generation, and 80186/80286 code generation.

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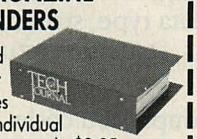
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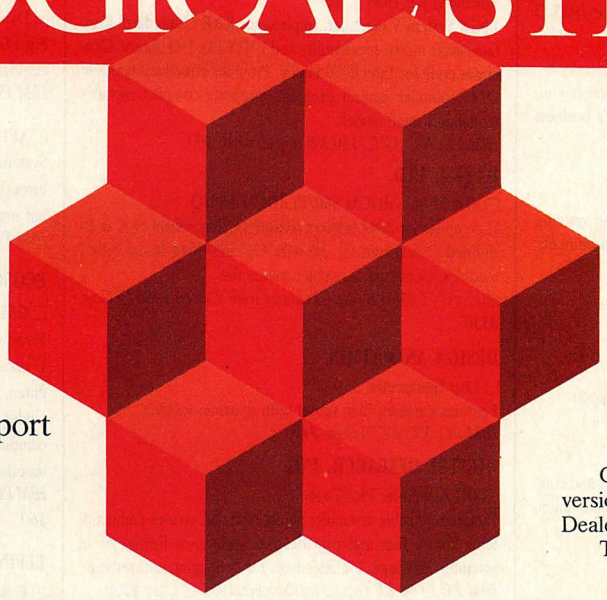
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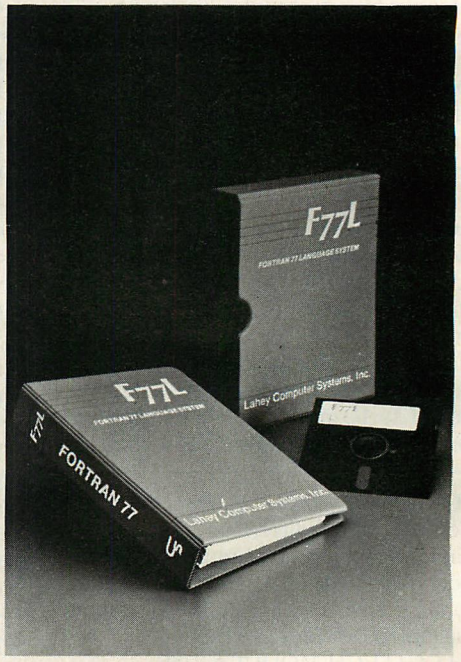
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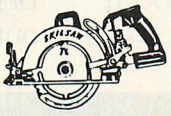
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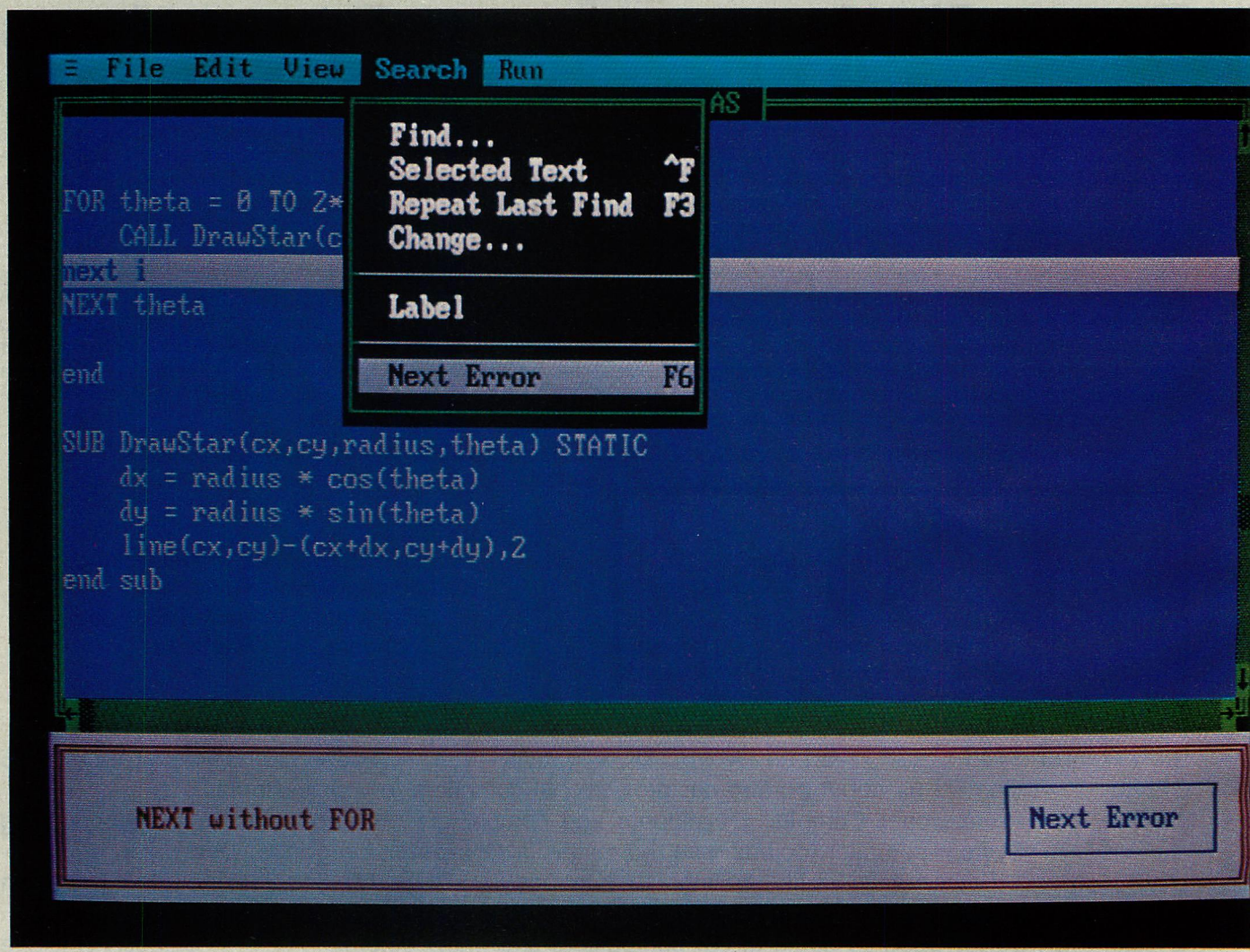
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- Graphics statements including WINDOW, VIEW, DRAW, GET, PUT, LINE, CIRCLE, LOCATE and SCREEN.
- Support of EGA extended graphics modes. NEW!
- BASICA structures are supported including WHILE/WEND, IF/THEN/ELSE, FOR/NEXT, GOSUB/RETURN, and event handling.

Results of Sieve Benchmark	BASICA 3.1	Microsoft QuickBASIC 2.0
Seconds per iteration	78	0.52

Complete Programming Environment
- Built-in Editor that places the cursor on found errors automatically. NEW!
- Compile entirely in memory at speeds up to 6000 lines per minute. NEW!
- Link routines once when starting a programming session and no need to link again when changing programs. NEW!
- Built-in debugger with single-step, animate, and trace modes. NEW!
- Create stand-alone programs.

Alphanumeric Labels
- Can be used to make your programs more readable. Line numbers are not required but are supported for BASICA compatibility.

Structured Programming Support
- Block IF/THEN/ELSE/END IF eliminates the need for GOTO statements. NEW!
- Subprograms can be called by name and passed parameters. Both local and global variables are supported.

Modular Programming Support
- Separate compilation allows you to create compiled BASIC libraries to use and re-use your programs.
- A library of routines to access DOS and BIOS interrupts is supplied. NEW!

Large Program Support
- Code can use up to available memory.
- Numeric arrays, each up to 64K bytes, can use up to available memory. NEW!



Microsoft is a registered trademark and The High Performance Software is a trademark of Microsoft Corporation. IBM is a registered trademark of International Business Machines Corporation.

The fastest C

Your search for execution speed is over. The new Microsoft® C Compiler Version 4.0 is here. With blazing performance. We've added common sub-expression elimination to our optimizer that produces code that rips through the benchmarks faster than ever before.

"...the Microsoft performance in the benchmarks for program execution is the best of the lot overall." —William Hunt, *PC Tech Journal*, January, 1986.*

But speed isn't the only edge you get with Microsoft C. Other advantages include a variety of memory models like our new HUGE model that breaks the 64K limit on single data items. Plus our NEAR, FAR and HUGE pointers, which provide you greater flexibility. All this allows you to fine tune your program to be as small and fast as possible.

"Excellent execution times, the fastest register sieve, and the best documentation in this review ...Microsoft Corporation has produced a tremendously useful compiler." —Christopher Skelly, *Computer Language*, February, 1986.

No more debugging hassles. Introducing CodeView. Free.

Now, for a limited time, we'll give you an unprecedented programming tool when you buy Microsoft C, free. New Microsoft CodeView™ offers the most powerful tool yet in the war on C bugs. Forget the hex dumps. Now you can view and work with programs at any level you want. Use the program source, the disassembled object code, or



Microsoft C Compiler Version 4.00

Microsoft C Compiler

- Produces fast executables and optimized code including elimination of common sub-expressions. NEW!
- Implements register variables.
- Small, Medium and Large Memory model libraries.
- Compact and HUGE memory model libraries. NEW!
- Can mix models with NEAR, FAR and the new HUGE pointers.
- Transport source and object code between MS-DOS® and XENIX® operating systems.
- Library routines implement most of UNIX™ System V C library.
- Start-up source code to help create ROMable code. NEW!
- Full proposed ANSI C library support (except clock). NEW!
- Large number of third party support libraries available.
- Choose from three math libraries and generate in-line 8087/80287 instructions or floating point calls:
  - floating point emulator (utilizes 8087/80287 if installed).
  - 8087/80287 coprocessor support.
  - alternate math package – extra speed without an 8087/80287.
- Link your C routines with Microsoft FORTRAN (version 3.3 or higher), Microsoft Pascal (version 3.3 or higher) or Microsoft Macro Assembler.
- Microsoft Windows support and MS-DOS 3.1 networking support.
- Supports MS-DOS pathnames and input/output redirection.

Microsoft Program Maintenance Utility. NEW!

- Rebuilds your applications after your source files have changed.
- Supports macro definitions and inference rules.

Other Utilities

- Library Manager.
- Object Code Linker.
- EXE File Compression Utility.
- EXE File Header Utility.

C Benchmarks

In seconds

	Microsoft C 4.0	Lattice C 3.0	Computer Innovation C 2.3	Aztec C86 3.2	Wizard C 3.0
Sieve of Eratosthenes (register)	82.9	151.4	172.3	88.0	91.9
Copy Block	86.9	231.7	199.0	123.8	189.5

Run on an IBM PC XT with 512K memory

Microsoft CodeView
Window-oriented source-level debugger. NEW!

- Watch the values of your local and global variables and expressions as you debug.
- Set conditional breakpoints on variables, expressions or memory; trace and single step.
- Watch CPU registers and flags as you execute.
- Effectively uses up to four windows.
- Debug using your original source code, the resulting disassembly or both intermingled.
- Use drop-down menus to execute CodeView commands.
- Access the on-line help to lead you through CodeView's options and settings.
- Easily debug graphics-oriented programs since program output is kept separate from debugger output.
- Keyboard or optional mouse support.
- Enter in familiar SYMDEB or DEBUG commands.

*Reprinted from *PC Tech Journal*, January 1986, copyright 1986, Ziff-Davis Publishing.

you've ever seen.

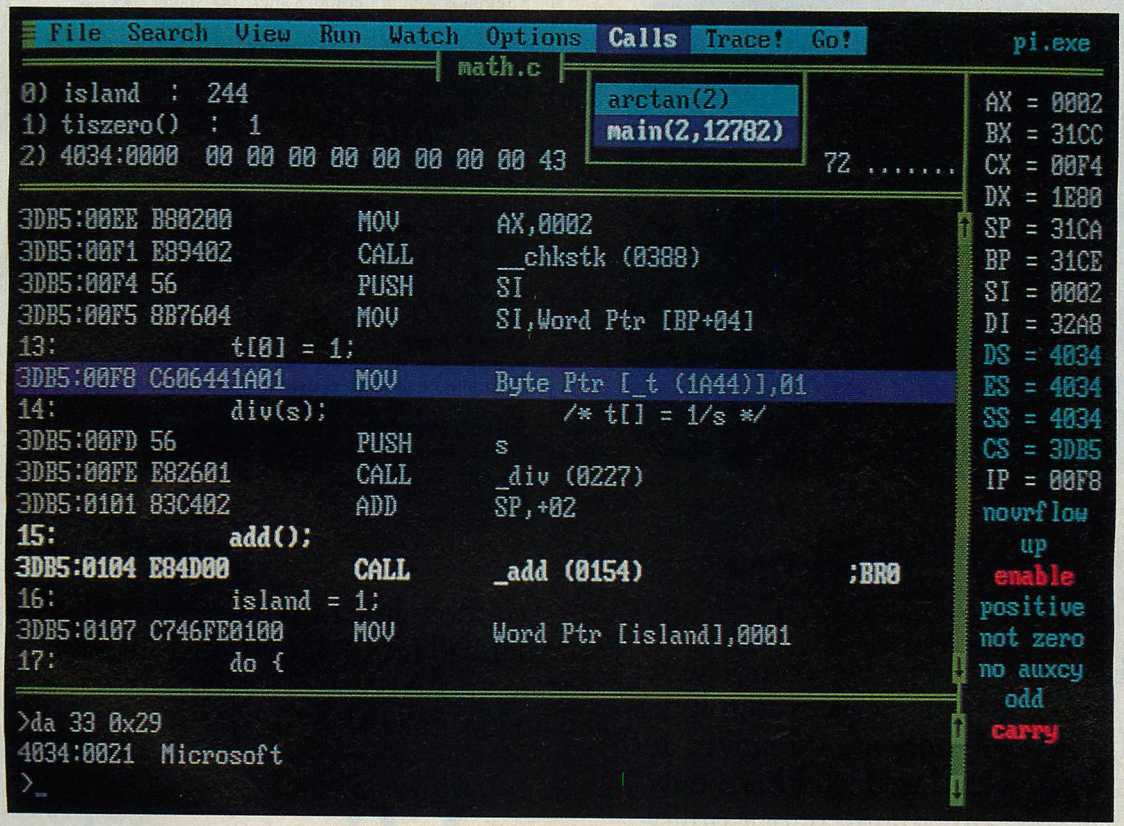
both at the same time. Open a window to view CPU registers and flags. Watch local and global variables as well. All while your program is running.

CodeView gives you complete control. Trace execution a line at a time—using source or assembly code. Or set conditional breakpoints on variables, memory or expressions. CodeView supports the familiar SYMDEB command syntax, as you'd expect. Commands are also available through drop-down menus. Combine the new window-oriented interface with our on-line help and debugging has never been easier. Or quicker.

Take the $5 CodeView tour.

You may find it hard to believe our debugger can do all we've claimed. So we're offering test drives. Five bucks will put you behind the wheel of a Microsoft C demo disk with CodeView.† See for yourself how fast debugging can get.

For more information about the CodeView demo disk, the new Microsoft C Compiler, a list of third party library support or the name of your nearest Microsoft dealer, call (800) 426-9400. In Washington State and Alaska, (206) 882-8088. In Canada call (416) 673-7638.



Microsoft® C Compiler

The High Performance Software

Microsoft, MS-DOS and XENIX are registered trademarks and CodeView is a trademark of Microsoft Corporation. UNIX is a trademark of AT&T Bell Laboratories. IBM is a registered trademark of International Business Machines Corporation. †Offer expires 12/31/86.

PC Magazine Product of the Year

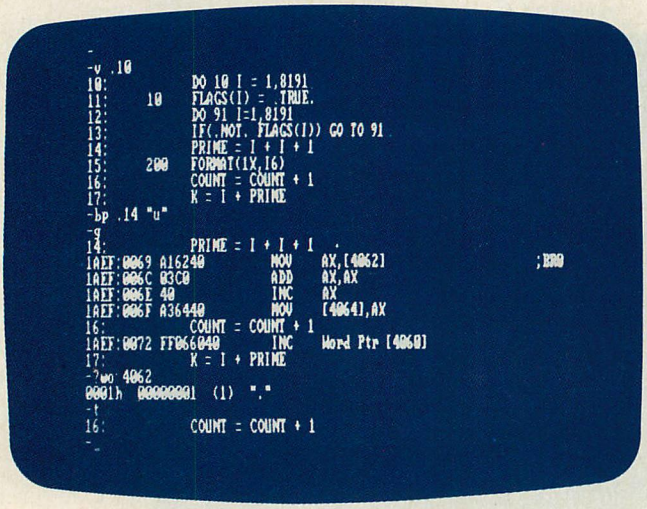
Macro Assembler

The quickest. Bar none.

Our Macro Assembler has long been the most complete package on the market. Now it's also the fastest. Three times faster than before. And faster than anyone else. Period.

Of course, it's still the most powerful assembler on the market. It supports the standard 8086/8087 opcodes. And the new 186/286/287 instruction set. So you can make the most of the new machines.

Debugging is quicker, too. Thanks to our interactive symbolic debugger, SYMDEB. Now you can refer to variables and source code instead of getting lost in hex dumps. And this debugger also works with Microsoft languages like C, FORTRAN and Pascal. So now you can set breakpoints and trace execution—using source code for reference.



Cut your development time dramatically. Microsoft Macro Assembler's Symbolic Debug utility lets you debug your Macro Assembler programs, or debug your Microsoft C, FORTRAN or Pascal programs using your original source code or the resulting disassembly. For example, you can set breakpoints on line numbers and observe the contents of variables or expressions.

SYMDEB is just part of our complete set of utilities. Tools that make programming as fast as it should be. There are the linker and library managers you'd expect. Plus a new version of MAKE, our maintenance utility, with improvements like macro expansions and inference rules.

We've also revised the manuals. Our new Macro Assembler has a lot to offer, so we added more examples. Now our manuals are not only thorough, they're clearer than ever before.

For quick development and assembly, the choice is obvious. Microsoft. There's nobody faster.

Microsoft® Macro Assembler Version 4.0 for MS-DOS®

Macro Assembler
- Fastest macro assembler for MS-DOS computers.
- Supports the 8086/8087/8088 and the 186/286/287.
- Define macros.
- Conditional assembly.
- Optional case sensitivity for symbols.
- 100% upward compatibility from earlier versions of both the Microsoft and IBM® Macro Assemblers.

Interactive Symbolic Debug Utility
- Source level debugger for programs written in Microsoft Macro Assembler, C Compiler, FORTRAN, and Pascal.
- Screen swapping helps debug highly visual applications.
- Set breakpoints on line numbers and symbols.
- Single step to follow program execution.
- Disassemble object code.
- Display and modify values.
- Full I/O redirection.

Program Maintenance Utility
- Rebuilds your applications after your source files have changed.
- Similar to UNIX™ MAKE utility.
- Supports macro definitions and inference rules.

Library Manager
- Create, organize and maintain your object module libraries created with Microsoft languages.
- Set page size from 16 to 32678, to create compact and granular libraries.

Object Code Linker
- Simple overlaying linker combines relocatable object modules created using Microsoft languages into a single program.
- Load Map generation.
- Specify from 1 to 1024 segments.

Cross-Reference Utility
- Creates a cross-reference listing of the definitions and locations of all symbols used in an assembly language program, which makes debugging programs easier.

Microsoft EXE File Compression Utility
- Packs EXE files for smaller size on disk and faster loading at execution time.

Microsoft EXE File Header Utility
- Display and modify EXE file header, allowing you to tune the stack size and initial memory allocation.

For the name of your nearest Microsoft dealer call (800) 426-9400. In Washington State and Alaska, call (206) 882-8088. In Canada, call (416) 673-7638.

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The High Performance Software™

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ELLIS COMPUTING, INC.

☐ Utah BASIC
Develops and debugs programs. Defines single- and multi-line functions. Limits number of characters in response and time allowed for response. Accesses math capabilities. Built-in screen text editor. Adds, deletes and corrects programs. Creates random access and sequential files.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $40

☐ Utah COBOL
Compiles and executes 5,000 statements. Based on ANSI-74 standards. Generates in-line machine language. Handles random access and sequential files, copy statement, character string, edit, 16-bit binary and 18-digit packed decimal data types.
IBM AT, PC, XT ☐ 128 KB req. ☐ Copies sold: 2,000 since 1985 ☐ Cost: $40

☐ Utah FORTRAN
Based on ANSI-66 standards, FORTRAN IV. Includes if-then-else constructs, trace style debugging, copy statement, arrays up to 7 dimensions, free format read and sequential/random file support extensions.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 300 since 1986 ☐ Cost: $40

☐ Utah Pascal
Reviewed Jul 1986 p. 94.
Handles CRT screen formatting with cursor control, graph/statistic procedures, case statement, get/put, 64K strings, dynamic storage and external procedures. Includes separate auto loading compilation, sequential/random files, 14-digit precision, floating point 64 to 63 and BCD math.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $40

☐ Utah PILOT
Programming language designed for data entry, programmed instruction and testing. Interpreter includes full-screen text editor and commands to drive optional equipment comprising VTRs and voice response units. Complies with PILOT-73 standards. Supports IBM character set including foreign language characters.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $40

ENERTEC, INC.

☐ MCP (Micro Concurrent Pascal)
Allows direct hardware addressing, external calling of assembly language routines, multi-tasking for real-time environment. Run-time kernel included to reside on target microprocessor.
IBM PC ☐ 256 KB req. ☐ Copies sold: 300 since 1980 ☐ Cost: $1,795 and up

FARADAY ELECTRONICS

☐ GW9000
Implementation of Microsoft BASIC compatible with IBM advanced BASIC. Requires MS9200. Supports Faraday motherboards.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $150

FAST FEEDBACK TECHNOLOGIES

☐ Forth
IBM PC ☐ 48 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $150

GENERAL DATA SYSTEMS, LTD.

☐ Dx Database Language
Fourth generation functionality in COBOL setting. Supports simple and production data bases. Accesses permanent data base relations, temporary relations, parametric tables and working files/storage. Handles COBOL data types with conversions between types.
IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983

GIMPEL SOFTWARE

☐ C-terp
Reviewed May 1986 p. 153.
C interpreter and development environment. Supports K&R C language and ANSI C extensions. Reconfigurable editor and standard library. Links in object modules compatible with supported compiler. Software paging option for large applications. Large memory model. Batch mode, 8087 and multiple modules.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2,500 since 1984 ☐ Cost: $300

GOLD HILL COMPUTERS

☐ GC LISP
Reviewed Dec 1985 p. 98.
Develops expert and natural language systems and intelligent interfaces to complex programs. Includes DOS support, full-screen intelligent editor, macros and color graphic support. Provides multi-tasking, I/O streams, closures for object-centered programming and multiple-value-returning functions.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $495

GRID SYSTEM CORP.

☐ C Features
Implements C, supports I/O, floating point utilizing Intel 8087 and bit fields.
IBM PC

HARVARD ASSOCIATES, INC.

☐ PC LOGO
LOGO implementation. Features search-and-replace function and programmed function keys to load and save files and pictures. Provides examples of turtle graphics, word and list manipulation, music, programming utilities and business applications.
IBM PC, XT, PCjr ☐ 64 KB req. ☐ Copies sold: 10,000 since 1983 ☐ Cost: $150

HARVARD SOFTWORKS

☐ HSFORTH
FORTH interpreter/compiler. Supports DOS 2.X file system and Mb programs. Features 8088, 80186, 8087 assembler, optimizer, floating point, string functions, editor, graphics, sound, music and debug tools including decompile and trace. I/O interface available.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $395

HAUPPAUGE COMPUTER WORKS, INC.

SEE AD ON PAGE 187

☐ 87 Math Pak
Collection of 8087/80287 math coprocessor utilities. Provides math support to IBM BASIC compiler and Microsoft's QuickBASIC compiler. Matrix manipulation and FFT routines usable with IBM BASIC, FORTRAN and Pascal compilers and QuickBASIC.
IBM PC, XT, AT, PCjr ☐ Copies sold: 2,500 since 1983 ☐ Cost: $180-$279

HUMAN COMPUTING RESOURCES CORP.

☐ HCR/Pascal
Direct access to UNIX environment. Generates C language code. Macro preprocessor emulates C preprocessor. Includes UCSD dynamic string package and interface to UNIX system calls. Separate compilation of multiple module programs.
IBM PC, AT, RT ☐ 256 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $500 and up

HAUPPAUGE COMPUTER WORKS, INC.
358 Veterans Memorial Highway,
Suite MSI
Commack, NY 11725
516-360-3827

87 QB Pak is a library which adds math coprocessor support to Microsoft's QuickBASIC and the IBM Basic Compiler, speeding math calculations by up to 15 times. The math coprocessor support is added at the link stage, so no changes are needed to the source code.

☐ UX-BASIC
Multi-user, multi-tasking business programming language for UNIX and MSDOS based systems. Features interpreter and compiler, structured code, modular programming, BCD arithmetic, indexed sequential files, 32 character labels and debugging facilities. Meets ANSI minimal BASIC standards. Available as runtime.
IBM XT, AT ☐ 500 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $95-$7,800

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ C"
IBM no. 6871-466. Designed for system implementation. Compatible with UNIX Version 7 based C and a library.
IBM PC, XT, 3270-PC ☐ Cost: $350

☐ APL
Reviewed Nov/Dec 1983 p. 135.
IBM no. 6024-077. APL compiler.
IBM PC ☐ Cost: $195

☐ APLDI/PC (APL Data Interface)
IBM no. 6410-978. Provides file inquiry, selective data extraction and reporting. Requires IBM 8087 Math Co-processor.
IBM PC, XT ☐ 192 KB req. ☐ Cost: $325

☐ Assembler H XT/370
IBM no. 5668-962/01.
IBM XT/370 ☐ Cost: $432

☐ BASIC Compiler
IBM no. 6024-003.
IBM PC, XT, AT, PCjr, Portable PC ☐ 128 KB req. ☐ Cost: $300

☐ BASIC Compiler 2.0
IBM no. 6024-216; 6280-078. Specifically suited to run under IBM's TopView environment in IBM PC networks.
IBM PC, XT, AT, Portable, Convertible ☐ 64-128 KB req. ☐ Cost: $495 (6024-216); $539 (6280-078)

☐ BASIC Interpreter
IBM no. 6024-101. Compiler.
IBM PCjr ☐ Cost: $75

☐ BASIC Processor and Library XT/370
IBM no. 5668-996/01.
IBM XT/370 ☐ Cost: $1,008

☐ BASIC Reference Version 3.2
IBM no. 6280-075. For DOS 3.2. Allows open statement to support IBM PC and IBM Token-Ring Networks. Provides extended graphics adapter support for enhanced modes via palette, palette using and color statements.
IBM PC, XT, AT, Portable, PCjr, Convertible ☐ 128 KB req. ☐ Cost: $45

☐ C Compiler
IBM no. 6280-072, 081. Includes selectable-memory-model support, mixed-memory-model programming, interactive symbolic debug, implemented register support and utilities for program maintenance.
IBM PC, XT, AT, Portable, Convertible ☐ 256-320 KB req. ☐ Cost: $495

☐ COBOL Compiler
Reviewed Aug 1985 p. 107.

HAUPPAUGE COMPUTER WORKS, INC.
358 Veterans Memorial Highway,
Suite MSI
Commack, NY 11725
516-360-3827

87 Software Pak provides math coprocessor support for the IBM BASIC Compiler and Microsoft QuickBASIC, plus a set of high speed matrix manipulation and FFT routines. Complete source code written in Microsoft Macro Assembler is provided for all libraries and functions.

IBM no. 6024-011.
IBM PC ☐ Cost: $700

☐ **COBOL OS/VS Compiler and Library XT/370**
IBM no. 5740-CB1/01.
IBM XT/370 ☐ Cost: $912

☐ **COBOL OS/VS Library XT/370**
IBM no. 5740-LM1/01.
IBM XT/370 ☐ Cost: $288

☐ **FORTRAN Compiler**
IBM no. 6024-127.
IBM PC ☐ 128 KB req. ☐ Cost: $350

☐ **FORTRAN VS Compiler and Library XT/370**
IBM no. 5748-FO3/01.
IBM XT/370 ☐ Cost: $816

☐ **FORTRAN VS Library XT/370**
IBM no. 5748-LM3/01.
IBM XT/370 ☐ Cost: $192

☐ **FORTRAN 77 Professional Compiler and Library**
IBM no. 6024-200. Supports programs, data areas and arrays larger than 64K. Provides compile time options for debug, default integer size and warning-level error message suppression.
IBM PC ☐ 192 KB req. ☐ Cost: $595

☐ **Macro Assembler**
Reviewed Oct 1985 p. 48.
IBM no. 6024-193, 002; 6280-077. Provides macro capability, structured assembler preprocessor, library manager, 1 MB linker, 8087/80827 data format conversion facilities, cross-reference facility and pseudo operations. Supports IBM PC's full instruction set.
IBM PC, XT, AT, Portable, PCjr, Convertible ☐ 96 KB req. ☐ Cost: $175 (6024-193); $100 (6024-002); $189 (6280-077)

☐ **Pascal Compiler**
Reviewed Jul 1986 p. 94.
IBM no. 6024-010.
IBM PC ☐ Cost: $300

☐ **Pascal Compiler 2.0**
IBM no. 6024-128.
IBM PC ☐ Cost: $350

☐ **PL/I**
IBM no. 6871-350; 5714-PL1. PL/I compiler.
IBM PC, XT, 3270-PC ☐ Cost: $750 (6871-350); $9,800 (5714-PL1)

☐ **PL/I Optimizing Compiler and Library XT/370**
IBM no. 5734-PL3/01.
IBM XT/370 ☐ Cost: $1,008

☐ **PL/I Resident Library XT/370**
IBM no. 5734-LM4/01.
IBM XT/370 ☐ Cost: $192

☐ **PL/I Transient Library XT/370**
IBM no. 5734-LM5/01.
IBM ☐ Cost: $192

☐ **RT PC BASIC**
IBM no. 5669-056. Compiler and interpreter. Common syntax and semantics. Character and graphics modes. IEEE format floating point numbers and 4-byte integers.
IBM RT PC ☐ Cost: $1,000

☐ **RT PC FORTRAN 77**
IBM nc. 5669-054. Compiler and runtime utilities. Includes Extended FORTRAN Language and Rational FORTRAN structured preprocessors for FORTRAN. Logical *1 and double complex data types. Internal files, recursion, character strings. Include statements. Binary initialization constants.
IBM RT PC ☐ Cost: $650

☐ **RT PC Pascal**
IBM no. 5669-055. Compiler and runtime library. IEEE format floating point numbers and 4-byte integers. Character and graphics modes.
IBM RT PC ☐ Cost: $1,000

☐ **VS COBOL Workbench**
IBM no. 6205-286. Provides IBM mainframe and IBM PC programming facilities. Includes full screen COBOL source editor, interactive syntax checker/compiler, screen painter and animated source code analysis.
IBM PC, XT, AT, 3270-PC ☐ Cost: $4,000

IMPACC ASSOCIATES, INC.

☐ **Interactive - C**
C language development tool. Provides K&R interpreter. Codes and debugs C programs. Memory resident. Supports graphics. Includes detailed syntax and run-time diagnostics. Checks array subscript bounds. Verifies pointer references to data/logic. Entry point and parameter compatible with Lattice compiler.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $249

INTECK, INC.

☐ **MUMPS for the IBM PC**
Uses IBM PC hardware features including tone generation and function keys. Generic MSDOS version available for 8088/8086 and related machines. Uses B-tree file structures.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $495

INTEGRAL QUALITY, INC.

☐ **IQCLISP**
Implements common Lisp.
IBM PC ☐ 400 KB req. ☐ Copies sold: 300 since 1986 ☐ Cost: $300

☐ **IQLISP**
Reviewed Apr 1984 p. 112.
Includes 8087 support for floating point and graphics. Hierarchical directory access and random I/O (DOS 2.0).
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 3,000 since 1983 ☐ Cost: $175

INTEL CORP.

☐ **ASM 51**
Symbolic macro assembler. Produces object modules from Intel's 8051 microcontrollers' Macro Assembly language instructions that can be relocated and linked to other 8051 modules including PL/M 51 modules. Allows symbolic access to hardware registers, I/O ports, control bits and RAM addresses.
IBM XT, AT ☐ Cost: $750

☐ **PL/M 51**
Provides development support for Intel's 8051 single-chip microcontrollers. Supports Boolean processing, syntax checker, multiple optimization levels and cross-reference generation.
IBM AT, XT ☐ Cost: $750

INTERACTIVE SYSTEMS CORP. (CA)

☐ **INfort**
FORTRAN compiler.
IBM AT/PC/IX

LABORATORY MICROSYSTEMS, INC.

☐ **PC/FORTH**
Supports graphics, communications and process control. Interpreter/compiler, screen editor, editor, assembler, debugging utilities and demonstration programs. Cross-compilers for 8080, Z-80, 8086, 68000, 6502, 8096 and 8051 available.
IBM PC, XT, AT ☐ 96 KB req. ☐ Copies sold: 5,000 since 1982 ☐ Cost: $150

LAHEY COMPUTER SYSTEMS, INC.

SEE AD ON PAGE 282

☐ **F77L - LAHEY/FORTRAN**
Reviewed Oct 1985 p. 149.
ANSI FORTRAN 77 language system. Source on-line debugger. Standard or free format. Arrays greater than 64 K. Third-party compatibility. English diagnostics. Requires 8087 or 80287 co-processor.
IBM PC, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $477

LATTICE, INC.

SEE AD ON PAGE 279

☐ **C Compiler**
Reviewed Jan 1986 p. 82.
IBM PC ☐ 128 KB req. ☐ Copies sold: 20,000 since 1981 ☐ Cost: $500

☐ **C-Food Smorgasborg**
Set utility functions for Lattice C program including decimal arithmetic package, I/O functions, and IBM PC BIOS interface.
IBM PC ☐ 128 KB req. ☐ Cost: $150

LEVIEN INSTRUMENT CO.

☐ **BYSO LISP**
LISP interpreter that provides file handling, full screen editor with four printing styles, arrays, macros and access to all system functions. Includes Visual Syntax, an editor that displays programs as data flow graphs. Supports LISP 1.5, MACLISP and Common LISP.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $150-$395

LIFEBOAT ASSOCIATES

SEE AD ON PAGE 291

☐ **Lattice C Compiler**
Reviewed Nov/Dec 1983 p. 110.
Full C implementation with library and I/O subroutines. Produces relocatable machine code in Intel's 8086 object module format.
IBM PC ☐ 128 KB req. ☐ Copies sold: 25,000 since 1984 ☐ Cost: $500

☐ **Plink II**
Two-pass linkage editor. Supports complex overlay schemes. Links programs for 8080 machines. Works with PASM, Microsoft, Whitesmith's or BD Software's format relocatable files and libraries.
IBM PC ☐ 64 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $350-$395

☐ **Run/C**
Reviewed May 1986 p. 153.
Shell/trace/profiler commands, detailed error messages and library of over 100 C example programs.
IBM PC ☐ 256 KB req. ☐ Cost: $150

LINK DATA, INC.

☐ **MPC/68**
Allows IBM to run software written in COBOL, DIBOL and CADOL languages without modification.
IBM PC, XT, AT ☐ 128 KB req.

LIONHEART PRESS, INC.

☐ **BASIC Compiler**
Reduces execution time of programs. Accepts code with or without line numbers. Creates and manages index files. Changes screen attributes within user's program.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $150

☐ **ProBASIC**
BASIC pre-processor. Merges blocks of source code. Marks references using labels rather than numbers.
IBM PC ☐ 64 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $75

☐ **Structure**
Transforms BASIC into a structured language. Library manager indexes and stores routines user wants to use in other programs. Processor takes structured code and transforms it into standard BASIC for user's interpreter and compiler.
IBM PC ☐ Introduced: 1985 ☐ Cost: $75

THE LISP CO.

☐ **TLC-LISP**
Reviewed Apr 1984 p. 112.
Features fixed and floating point math, display editor including block move and search operations, source files with editor, debugger and OS interface for user customizaton, and compiler for user-defined functions.
IBM PC ☐ Cost: $250

LOGICWARE, INC.

☐ **MPROLOG**
Reviewed Jan 1986 p. 145.
Applications include expert systems, natural-language software, CAI/diagnosis, computer vision and voice recognition.
IBM PC, XT/370

You Can Get Programming Software Anywhere.

Here Are 10 Reasons Why You Should Insist On LIFEBOAT.

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CIRCLE NO. 279 ON READERS SERVICE CARD

LOGITECH, INC.
SEE AD ON PAGE 281

☐ **Modula-2/VX86**
Reviewed Dec 1984 p. 154.
Compiles down to 8086/8088 native machine code. Type checking and controlled access to hardware and operating software.
IBM PC ☐ Cost: $6,500

LOKI ENGINEERING, INC.

☐ **MAGIC/L Interactive Language**
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IBM PC ☐ 196 KB req. ☐ Copies sold: 3,000 since 1981 ☐ Cost: $295-$750

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☐ **Portable Common LISP**
Common Lisp compiler, interpreter, debugger development environment. Uses proprietary compilation techniques to produce Lisp code that runs on many computer architectures. Transports applications between various computer systems for development and delivery needs.
IBM RT PC ☐ 4,000 KB req.

MANSFIELD SOFTWARE GROUP, INC.

☐ **Personal REXX**
Interpreter implementation of REXX language. Works as command language or macro language for KEDIT. Includes functions for DOS file, screen and directory access.
IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 3,000 since 1985 ☐ Cost: $125

MANX SOFTWARE SYSTEMS, INC.

☐ **C 86-c, d, p**
Reviewed Nov/Dec 1983 p. 110; Jan 1986 p. 82.
Includes C compiler, assembler, overlay linker, full-screen editor, libraries, UNIX utilities, interpretive/native compilers, ROM support, 80186/80286/8087/80287 support and CP/M-86 libraries in DOS format.
IBM PC ☐ Cost: $99-$499

MBP SOFTWARE AND SYSTEMS TECHNOLOGY, INC.
SEE AD ON PAGE 293

☐ **Visual COBOL**
Reviewed Apr 1984 p. 76; Aug 1985 p. 107.
ANSI 74 Level II native code compiler includes screen management system, interactive debugger, multi-keyed ISAM, extended chaining, access to DOS, callable sort, RM-compatible extensions to accept/display verbs. Version available for Novell network.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $1,150

MERIDIAN SOFTWARE SYSTEMS, INC.

☐ **Ada**
Compact compiler available in self-hosted and cross-compiler configurations.
IBM PC

☐ **Make**
Recompilation utility. Maintains relationships among elements of hierarchically organized software systems.
IBM PC

METAWARE, INC.
SEE AD ON PAGE 283

☐ **High C Compiler**
Compiles ANSI and extended C across machines and OSs in resident and cross modes. Designed for industrial-strength use by software developers. Supports 3 integers and real sizes, dynamic internal tables, and 5 memory models on 8086 family.
IBM PC ☐ 256 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $495-$5,000

☐ **Professional Pascal Compiler**
Reviewed Jul 1986 p. 94.
Designed for industrial-strength use by software developers. Provides Ada-like packages for separate compilation with data abstraction and iterators from CLU, extra operators from C and Modula, three integer and real sizes, retyping, calling conventions and dynamic internal tables.
IBM PC ☐ 256 KB req. ☐ Copies sold: 250 since 1984 ☐ Cost: $595-$5,000

MGLOBAL

☐ **CCSM**
ANSI Standard MUMPS-compatible compiler. Multi-user. B-tree structure. Includes full-screen editor, virtual memory and 8087 and BCD support. Micro-mainframe-mini transportable.
IBM PC ☐ Cost: $60

MICRO FOCUS, INC.

☐ **CIS COBOL**
Interactive COBOL compiler to federal low-intermediate level. Provides screen formatting and data entry mechanisms. Supports MF's Animator, Slideshow and Forms-2.
IBM PC ☐ 64 KB req. ☐ Copies sold: 10,000 since 1979

☐ **Compact Level II COBOL and High Performance Level II COBOL**
Provides CRT screen handling and loads segments/sub-programs dynamically. Supports MF's Animator, Slideshow and Forms-2.
IBM PC ☐ 64-256 KB req. ☐ Copies sold: 5,000 since 1981

☐ **Compact Level II COBOL/ET**
ANSI 74 COBOL compiler. Generates intermediate code from source programs created using standard UNIX editor such as vi. Supports large programs, 4 COBOL file formats and calls to programs written in C.
IBM PC, RT

☐ **High Performance Level II COBOL**
Reviewed Apr 84 p. 76; Jul 85 p. 111; Aug 85 p. 107.
Integrated COBOL programming environment for the development of mainframe COBOL programs on IBM PC workstations. Integrates tools such as Animator, for interactive visual debugging, and Forms, for prototyping interactive displays.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 5,000 since 1985

☐ **High Performance Level II COBOL/Multiuser**
ANSI 74 COBOL compiler. Record locking available on per file basis. Allows file sharing with full pathname support between COBOL programs running independently in multi-processing environments. Compatible with Micro Focus' Animator debugging tool and Sourcewriter applications generator. PCDOS requires Novell Netware.
IBM XT, AT

☐ **Professional COBOL**
Reviewed Aug 1985 p. 107.
Includes full screen editing, forms generation and program animating functions. Creates, analyzes, debugs and modifies programs.
IBM PC, XT, AT, Portable PC, 3270-PC ☐ 256 KB req. ☐ Copies sold: 4,000 since 1983

☐ **VS COBOL Compiler**
High speed compiler. Generates 8086 native code. Supports ANSI'74 and ANSI '85 standards. Screen and keyboard support, internal sort/merge, communications and report writer support.
IBM PC, XT, AT, Portable PC, 3270-PC ☐ Introduced: 1985

MICRO MOTION

☐ **MasterForth**
Screen editor, macro-assembler, strings, 32-bit integer arithmetic and hi-res graphics. Interpreter, compiler, assembler, editor and OS co-resident. Target compiler available.
IBM PC, XT, AT ☐ 32 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $125-$305

MICROSOFT CORP.
SEE AD ON PAGES 284/285/286/287/288

☐ **BASIC Compiler**
Provides double-precision transcendental functions with accuracy to 16 digits. Library contains routines for specific applications.
IBM PC, AT ☐ 64 KB req. ☐ Introduced: 1979 ☐ Cost: $350

☐ **BASIC Interpreter**
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IBM PC ☐ 64 KB req. ☐ Copies sold: 3,000,000 since 1975 ☐ Cost: $350

☐ **Business BASIC Compiler**
IBM PC ☐ 64 KB req.

☐ **C Compiler**
Reviewed Nov/Dec 83 p.110; Jan 86 p.82; Jul 86 p.29.
IBM PC, AT ☐ 256 KB req. ☐ Cost: $395

☐ **COBOL**
Reviewed Jul 1985 p. 111; Aug 1985 p. 107.
Data entry during program execution, screen formatting, interactive debugging and large program support. Supports Microsoft Sort.
IBM PC, AT ☐ 128 KB req. ☐ Introduced: 1979 ☐ Cost: $995

☐ **FORTRAN**
Reviewed Oct 1985 p. 149; Jul 1986 p. 29.
X3.9 ANSI subset level. Utilizes 8087 floating point coprocessor for numeric processing and 8087-emulation software. Supports multi-users.
IBM PC, AT ☐ 150 KB req. ☐ Introduced: 1981 ☐ Cost: $495

☐ **LISP**
AI language. Includes 400 common LISP functions, macros and special forms. Implements in machine code.
IBM PC

☐ **Macro Assembler for MSDOS**
Reviewed Oct 1985 p. 48; Jul 1986 p. 169.
LINK-80 connects relocatable modules and converts to executables. CREF-80 lists all intermodules referenced. LIB-80, run-time library manager. Includes source symbolic level debugger.
IBM PC ☐ 96 KB req. ☐ Introduced: 1977 ☐ Cost: $100

☐ **MuLISP Artificial Intelligence Development System**
Upwardly compatible extensions, trace facility and interactive screen-based tutorial system. Implements corrections via control characters.
IBM PC ☐ 64 KB req. ☐ Introduced: 1979 ☐ Cost: $200-$250

☐ **Pascal**
Reviewed Jul 84 p. 58; Jul 86 p. 29; Jul 86 p. 94.
Supports multi-users with file sharing and file/record locking. Address types, super arrays, separate compilation and variable length strings.
IBM PC, AT ☐ 140 KB req. ☐ Introduced: 1981 ☐ Cost: $495

☐ **QuickBASIC Compiler**
Works with previously written programs. Supports BASIC sound/graphic statements including play, sound, locate, draw, get, put, line, circle, pset and color. Offers language extensions when moving into structured programming. Alphanumeric labels optional.
IBM PC ☐ Cost: $99

MICROTEC RESEARCH, INC.
SEE AD ON PAGE 304

☐ **C Language System**
Accepts C source programs as input and translates source into symbolic assembly language.
IBM PC ☐ Cost: $4,000-$6,000

☐ **High C Compiler**
IBM PC

☐ **Macro Meta Assembler**
Symbolic microcoding for bit-slice or microprogrammed devices. Includes definition and assembler programs, linker and PROM formatter.
IBM PC ☐ 64 KB req. ☐ Introduced: 1978

☐ **Pascal**
Accepts Pascal source programs as input and translates source into symbolic assembly language.
IBM PC ☐ Cost: $4,000-$8,000

MICROWAY, INC.
SEE AD ON COVER 3

☐ **87BASIC**
Provides user transparent and 8087 support for IBM BASIC Compiler. Performs trigonometrics, transcendentals, addition, subtraction, multiplication and division. Includes patches to IBM BASIC Compiler.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 4,500 since 1982 ☐ Cost: $150

☐ **87BASIC/Inline**
Generates 8087 inline code. Transforms IBM BASIC Compiler output into Assembly language source file. Produces independently compiled subroutines. Allows BASIC programs to have over 64 K of code. Requires 8087, IBM BASIC Compiler and IBM/Microsoft Assembler.
IBM PC, XT, AT

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☐ **MMSFORTH**
Total FORTH environment. Includes full-screen editor, in-line assembler, user-callable disk I/O with verification and tape I/O, virtual memory with multiple block buffers and lo-res graphics. Features copies utility, user-definable windows, double-precision integer math and string-handling.
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MIPS SOFTWARE DEVELOPMENT, INC.

☐ **Dyalog APL**
Includes nested arrays, full screen editor, screen management facility, session manager, event trapping, commercial formatter and external function libraries.
IBM AT, RT ☐ 500 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $900-$9,000

MIX SOFTWARE

☐ **C+**
Standard K&R C compiler and linker with UNIX V7 extensions. UNIX compatible function library with over 150 functions.
IBM PC ☐ Cost: $40

MODULA CORP.

☐ **Modula-2 Compiler/Interpreter**
Suited to the design and implementation of larger software systems including those which interact with the host at the lowest levels.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 2,100 since 1984 ☐ Cost: $150-$1,000

☐ **PC Modula-2**
Implements the full language and provides modules for color or hi-res grapics and the Microsoft Mouse.
IBM PC, XT, AT ☐ 128 KB req.

MODULA RESEARCH INSTITUTE

☐ **M2M-PC**
Reviewed Dec 1984 p. 154.
Modula-2 compiler. Uses 4-pass technique and run-time system.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $40

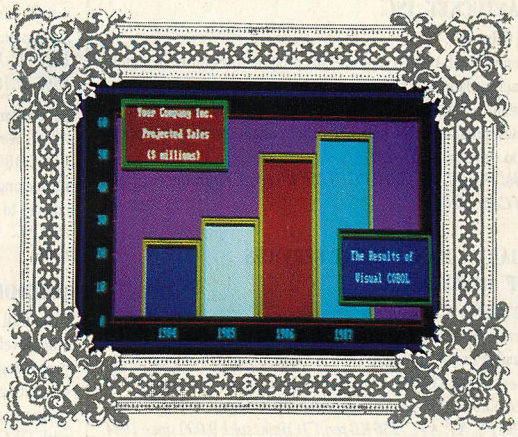
MORGAN COMPUTING CO., INC.

☐ **Professional BASIC**
Reviewed Jun 1986 p. 52.
Window-oriented interpreter. Includes 18 windows into program execution, syntax checking, optional line labels, large integers, real numbers, breakpoints, English error messages and cross-referencing.
IBM PC, AT, XT ☐ 512 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $99

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Visual COBOL gives you the screen management capabilities you need. It can make the difference between ordinary software, and software that sells. Just as important, Visual COBOL increases your productivity by saving you valuable time in both the design and coding stages of program development. What's more, screen modifications can be done without recompiling the program, so maintenance is easy.

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☐ Pascal
Reviewed Jul 1986 p. 94.
Interactive, multi-tasking Pascal compiler. Allows programs up to 1MB. Includes full screen editor and help windows. Displays error messages on screen and places cursor at point of error.
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☐ BASIC-2C Compiler
Screen I/O is bit mapped, yielding baud rates of up to 100,000 baud. Provides program overlays and merging, common variables, COM CLEAR, dynamic variable, space functions, BCD accurate arithmetic and commonly used forms of $GIO.
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☐ Q'Nial (Nested Interactive Array Language)
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IBM PC ☐ 512 KB req. ☐ Copies sold: 120 since 1982 ☐ Cost: $300

NOSTRADAMUS, INC.

SEE AD ON PAGE 240

☐ Pascal Plus
Set of external procedures in assembly language. Designed for IBM/MS Pascal's interface environment. I/O facility works with DOS 2.0 or higher. Expanded text display is available with IBM hardware and graphics adaptor.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $60

☐ Turbo Spawn
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☐ Turbo-Plus
Set of external procedures in assembly language and designed for Turbo Pascal's interface environment, I/O facility works with DOS 2.0 and higher.
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NOVELL, INC.

☐ NetWare/BI-286
Business BASIC II interpreter. Prevents rounding errors. Develops/debugs on line-by-line basis. Supports indexed, direct and sort file structures. Performs program renumbering and cross-referencing.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $595-$1,195

☐ NetWare/RM
Allows NetWare users to run multi-user applications written in RM/COBOL. Allows applications that use the record and/or file locking features of RM/COBOL to be implemented without change to the source code.
IBM PC, AT, XT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $495

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☐ Softbol
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IBM PC

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☐ Pascal-2
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IBM AT ☐ 56 KB req. ☐ Copies sold: 250 since 1981 ☐ Cost: $395-$7,800

PCOLLIER SYSTEMS

SEE AD ON PAGE 6

☐ Modula - 2PC
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PECAN SOFTWARE SYSTEMS, INC.

☐ BASIC Compiler and Runtime Unit
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IBM PC, XT, PCjr, AT ☐ 64 KB req. ☐ Introduced: 1981 ☐ Cost: $100

☐ CompilerCore
IBM PC, XT, AT ☐ Cost: $60

☐ FORTRAN-77 Compiler and Runtime Unit
Features ANSI-77 subset with support for structured programming and improved character types.
IBM PC, XT, PCjr, AT ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $100

☐ UCSD Pascal Compiler
Reviewed Jul 1986 p. 94.
IBM PC, XT, PCjr, AT ☐ 64 KB req. ☐ Copies sold: 100,000 since 1980 ☐ Cost: $145-$325

PHOENIX TECHNOLOGIES, LTD.

☐ GWBASIC/BASICA Integration
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☐ SLAM II/PC
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Reviewed Jan 1986 p. 145.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,700 since 1982 ☐ Cost: $89-$99

☐ Micro-PROLOG Professional
Language interpreter. Window handling primitives and screen editor.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $395

PROMARK, LTD.

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(division of Newberry Microsystems)

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PUGH-ROBERTS ASSOCIATES, INC.

☐ Dynamo
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Use any text editor you like to produce the ASCII format source file. We provide RED, designed to support fast editing of extremely large files. RED includes default line formats (with and without line numbers), EGA support, file recovery, and automatic merging of previous-compile errors into the source file as you edit it.

You code in the COBOL you know: the compiler is so compatible with IBM VS COBOL that we deliver their language reference manual with our compiler. REALIA COBOL is GSA-certified at the high level for ANSI 74, and incorporates significant ANSI 85 features.

If you need command-level CICS programming, Realia almost eliminates the need for CICS test regions. With RealCICS, mainframe CICS applications can be moved to the PC for development and testing, then sent back to the mainframe for execution. Or the application can be moved permanently to the micro, saving even more in human and computer resources.

RealCICS includes a command-level COBOL program preprocessor, a resource definition processor, a BMS macro processor, and a full-screen map editor.

If your application is PC-based, the four Realia interfaces (DOS, C, assembler, and machine-level) can be extremely useful.

Screen and keyboard handling is fully implemented with DISPLAY and ACCEPT. For screen painting, Realia offers the option of the highly-respected SCREENIO package.

For single-user systems, REALIA COBOL handles ten file formats, including a fast, high-capacity indexed file system. For multi-user systems, RealFILE supports fast, safe filesharing using the IBM Token Ring Network and compatible networks. Files (including indexed files) can be shared among multiple machines. A central journal and local file caching minimize network traffic.

RealFILE's security features, such as rollback and recovery, are familiar to mainframe users and much needed for PC applications. Future RealFILE versions will provide a fault-tolerant database environment for the PC user.

Now, compile and execute. Fast.

REALIA COBOL compiles larger programs than any other COBOL compiler, mainframe or micro. A compiled program can have up to 1 Mb of data division and 6.4 Mb of procedure division, using overlays.

Designed for real-world programming projects with large programs and tight deadlines, REALIA COBOL compiles four times faster than its nearest micro COBOL competitor.

The greatest benefit comes when the compiled program is executed. Realia optimizes the COBOL code -- minimizing disk requirements and achieving the fastest micro COBOL execution.

Debug, better than on a mainframe.

REALIA COBOL and RealCICS take advantage of the full-screen, source-level debugger RealDBUG. RealDBUG allows you to watch and work with the program source as it executes. Unlike most interactive debuggers, RealDBUG uses the standard generated machine code output of the compiler -- the same code used in production.

The debugger also makes maximum use of the screen: with a standard single monitor, you can alternate between your application and the debugging source or split the screen between them. With two monitors or an EGA, both screens can appear at once.

Make it work.

The Realia workstation was built for COBOL programmers *by COBOL programmers.* The tools are constantly used by the people who provide telephone support and develop new releases. You get the right tools, the right information when you need it, and automatic updates (for an annual fee after the first year). Call us for more information.

REALIA®

10 South Riverside Plaza , Chicago, IL 60606 ■ (312) 346-0642 ■ Telex: 332979 (REALIA INC)

CIRCLE NO. 289 ON READERS SERVICE CARD

☐ **Professional Dynamo**
Allows user to create models and perform simulation analyses with dynamic feedback. Provides menu-driven interface, full-screen editor, cause-and-effect dynamics to control system behavior, screen-driven input prompts for what-if scenarios and built-in graphics capability.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986

RATIONAL SYSTEMS, INC.

☐ **Instant-C**
Reviewed May 1986 p. 153.
Includes compiler/interpreter, full screen editor and source level debugger. Enables coding, testing, debugging and modification without leaving Instant-C environment. Includes a standard library. Performs compile and run-time checking. Links to object code and compiled libraries.
IBM PC ☐ 512 KB req. ☐ Copies sold: 900 since 1984 ☐ Cost: $495

REALIA, INC.

SEE AD ON PAGE 295

☐ **COBOL**
Reviewed Jun 1985 p. 58; Aug 1985 p. 107.
High-speed compiler compatible with IBM VS COBOL. Supports ANSI-85 COBOL features. Compiles individual programs with up to 1 MB of data and 6.4 MB of code. Error-checking and interactive symbolic debugging. Interfaces with DOS, C, and assembly language subroutines.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $995

RR SOFTWARE, INC.

☐ **Janus/Ada Compiler-C, D, S Paks**
Partial Ada implementation. Supports modular programming via packages. Includes run-time error walk backs. Provides tools to aid program development including performance tracer and make utility. Mathematical library. Standard Ada strings.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 3,000 since 1981 ☐ Cost: $100

RYAN-MCFARLAND CORP.

☐ **RM/COBOL**
Reviewed Apr 84 p. 76; Jun 85 p. 58; Aug 85 p. 107.
Level 2 relative and multi-key index file access methods, multi-key files with up to 14 alternate keys including duplicates, file recovery utilities, interactive screen handling, file and record level locking for multi-user activity and interactive debugging. LAN support available.
IBM PC, XT, AT, RT ☐ 64 KB req. ☐ Copies sold: 400,000 since 1975 ☐ Cost: $950-$1,250

☐ **RM/COBOL-8X**
COBOL compiler for micros. Provides portable application code, IBM mainframe COBOL extensions and ANSI-1985 COBOL standards. Source code compatible with programs written in RM/COBOL. Executes ANSI 74 or ANSI 85 programs. Available for LANs.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1985 ☐ Cost: $1,250-$1,500

☐ **RM/FORTRAN**
Full implementation of ANSI 77 and FORTRAN 66 compiler. Includes Hollerith and hex constants, upper and lower case capability, hex editing and industrial real-time function standards. Provides symbolic interactive debugger.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 20,000 since 1984 ☐ Cost: $595-$750

☐ **RM/InfoExpress**
Add-on to RM/COBOL-8X. Allows multi-user applications to execute with no source or object code changes. Handles complex COBOL I/O request with single request-response transmission. Allows higher level of communication between user and network server.
IBM PC, XT, AT ☐ Cost: $595

S.A.I.L. SYSTEMS

☐ **S.A.I.L.B.O.A.T.**
Business BASIC interpreter for application development. BCD math and BTree file access.
IBM PC ☐ 32 KB req. ☐ Copies sold: 1,000 since 1979 ☐ Cost: $125

SOFT GOLD, INC.

☐ **APPLICATIONS BASIC**
Business BASIC level III/IV compiler/interpreter MSDOS. Dynamically allocated ISAM, files with full record/file locking on LANs, 1 to 58 character keys and support utilities.
IBM PC ☐ 64 KB req. ☐ Copies sold: 10,000 since 1983 ☐ Cost: $325-$595 (interpreter); $875-$1,150 (compiler)

SOFT WAREHOUSE, INC.

☐ **muLISP-86**
LISP language programming environment for PCs. Includes 400 LISP functions and special forms, split-screen editor and debugger, on-line tutorial and help systems. Native-code compiler optional.
IBM PC ☐ 128 KB req. ☐ Copies sold: 5,000 since 1979 ☐ Cost: $250

SOFTECH, INC.

☐ **Ada Language System (ALS)**
Includes ANSI Ada and DOD Stoneman specifications. Compiles, links, executes and debugs. Creates, edits and formats programs. Includes tools for library management, program analysis and project coordination.
IBM PC ☐ 150 KB req. ☐ Copies sold: 56 since 1985

SOFTWARE BUILDING BLOCKS, INC.

☐ **SBB Pascal Development Package**
Reviewed Jul 1984 p. 58.
Long pointers, variable length strings, direct file access, separate compilation, overlays, external routines, chaining, 8087 support, conformant arrays, include files and arbitrary precision BCD numbers.
IBM PC, XT, PCjr, AT ☐ 128 KB req. ☐ Copies sold: 150 since 1983 ☐ Cost: $95-$350

SOFTWARE IRELAND REPRESENTATIVES, INC.

☐ **UNIBOL**
Multi-user compiler and runtime execution module. Allows programs to run under UNIX Version 7, System III, System V and UNIX lookalikes.
IBM PC ☐ 128 KB req. ☐ Copies sold: 6,000 since 1983

THE SOFTWARE TOOLWORKS

☐ **LISP/80**
Features trace, file I/O and string operations. Includes editor, file librarian and formatted expression print routine.
IBM PC, PCjr ☐ 56 KB req. ☐ Cost: $40

☐ **Toolworks C**
Reviewed Jan 1986 p. 82.
Produces object modules compatible with MSDOS linker. Includes an execution profiler which lists number of calls and time spent in each subroutine and program trace facility. Executes matrix multiplication when used with MathPak.
IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $50

SOFTWARE WEST, INC.

☐ **RPG II**
IBM PC, XT, AT ☐ Cost: $1,500

SOFTWORDS

☐ **Natal**
Portable structured language for computer-aided-learning and CBT. Compares/manipulates text. Allows screen formatting and display control.
IBM XT ☐ 512 KB req. ☐ Introduced: 1983

SOURCE DATA SYSTEMS, INC.

☐ **SDL (System Definition Language)**
Fourth generation language. Consists of OS, system utilities, high level development language, end user oriented report generator, and distributed data processing including batch network processing and transaction network processing.
IBM PC, AT ☐ 128 KB req. ☐ Copies sold: 150 since 1978 ☐ Cost: $2,100

SOUTHWEST DATA SYSTEMS

☐ **Pluto**
Multi-user. Interprets MAI/Basic Four and Science Management BASIC programs for MS-DOS and XENIX based systems. Can use, customize or create BASIC programs with Pluto. Includes Basic Four's terminal emulation package for PCs.
IBM PC ☐ 256 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $595

SPECIALIZED SYSTEMS CONSULTANTS

☐ **u4th**
Version of FORTH programming language. Interfaces UNIX system calls and subroutines. Provides termcap support, and csh-like history mechanism. Kernel, library and source code for FORTH utilities. Recursive I/O redirection. Supports QUAN words. Vectored compilation.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $195-$495

STSC, INC.

☐ **APL*Plus/PC System**
Reviewed Nov/Dec 1983 p. 135.
Provides terminal mode using APL or ASCII character set and smart terminal mode for customized intelligent machine interaction. Includes graphics primitives, full-screen editor, page scrolling, capability to call DOS commands, numeric spreadsheet-like editor and full screen management.
IBM PC, AT, XT ☐ 192 KB req. ☐ Copies sold: 10,000 since 1983 ☐ Cost: $595

☐ **Pocket APL**
Reviewed Jul 1985 p. 90.
Provides on-line calculator, full-screen capabilities, help facility, file systems and soft character set for computers with IBM compatible graphics board. Includes report formatting and error trapping facilities.
IBM PC, PCjr ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $95

SUMMIT SOFTWARE TECHNOLOGY, INC.

SEE AD ON PAGES 297/299/300/301/302/303

☐ **BetterBASIC**
Reviewed Jun 1986 p. 52.
Structured programming language. GW-BASIC and BASICA compatible. Combines Pascal, Modula 2 and C features. Supports 640 KB memory and 8087/80287 math. Includes documentation, windows, libraries, DOS/BIOS calls, chaining, shelling and Assembly language calls. Run-time system available.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $199

SUNBELT COMPUTER SYSTEMS, INC.

☐ **SUNDB86A (MS-DOS Single-Pass DATABUS Compiler)**
Supports SCSI's AAM, which is compatible with Datapoint's AIM, and Datapoint's primary DATABUS language.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $695

☐ **SUNDB86M (MS-DOS DATABUS Compiler)**
Allows Intel 8086 Assembler to be written in-line within DATABUS code. Supports SCSI's AAM, which is compatible with Datapoint's AIM. Fully supports Datapoint's primary DATABUS language.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $595

Better BASIC™



A great product with a great reputation . . .

SUPERSOFT, INC.

☐ A"
Native code, recursive and multi-pass compiler. Generates COM files.
IBM PC ☐ 32 KB req. ☐ Introduced: 1982 ☐ Cost: $300

☐ BASIC Compiler
Native code compiler. Compatible with Microsoft BASIC. Prevents decimal round-off errors. Features integer, string, single and double precision variables, print using, error trapping, matrices and random/sequential disk files.
IBM PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $300

☐ C Compiler
Supports most of UNIX Version 7 standard C. Allows macro expansions. Provides in-line assembly code with ASM and EDASM.
IBM PC ☐ 48 KB req. ☐ Introduced: 1981 ☐ Cost: $350

☐ FORTRAN IV and RATFOR
Full 1966 ANSI standard with extensions. Supports recursive subroutines with static variables, until-while, if-then-else, begin-end and macro defines. 8087 support available.
IBM PC ☐ 32 KB req. ☐ Introduced: 1981 ☐ Cost: $325 (FORTRAN); $100 (RATFOR); $50 (8087 support)

SYSTEMS MANAGEMENT ASSOCIATES, INC.

☐ PROMAL
Structured language. Accommodates limited-memory micros. One-pass recursive descent compiler, full-screen editor, OS executive and library of 50 machine language subroutines.
IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $50-$99

TANDEM COMPUTERS, INC.

☐ COBOL85
Standard compiler with extensions for accessing Tandem facilities. Supports all required models specified in Draft Proposed Revised ANSI Programming Language COBOL (X3.23-198X).
IBM PC ☐ Cost: $500-$1,000 plus $150-$300 monthly license fee per processor.

☐ Tandem C
Lattice C compiler compatible C compiler. Conforms to K & R C standards with extensions for accessing Tandem facilities.
IBM PC ☐ Cost: $500-$1,000 plus $115-$225 monthly license fee per processor

☐ Tandem Pascal
Compiler with structured programming facilities and extensions for accessing Tandem facilities. Complies with ANSI/IEEE 770 X3.97-1983 and Level 0 of ISO 7185 standard.
IBM PC ☐ Cost: $500-$1,000 plus $115-$225 monthly license fee per processor

TEXAS INSTRUMENTS

☐ MS-BASIC Compiler
IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $300

THEOS SOFTWARE CORP.

☐ Theos BASIC
Includes interpreter and compiler. Supports over 500 commands, statements and functions. Translates programs into machine code. Provides editor and syntax checker.
IBM XT, AT ☐ Cost: $695

TOM SOFTWARE, INC.

☐ BASIC
Interpretive BASIC 2 language emulator. Customized for each OS. Transfers applications regardless of implementation.
IBM PC ☐ 28 KB req. ☐ Copies sold: 25 since 1983 ☐ Cost: $800-$3,500

TRANSERA CORP.

☐ TBASIC
BASIC language for technical engineering. Comprises built-in GPIB syntax for graphic and instrument type peripherals. Permits adaptation of software written for HP and Tektronix engineering computers to PC environment. Conforms to ANSI proposed BASIC standard.
IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $495

TRUE BASIC, INC.

☐ True BASIC Language System
Reviewed Jun 1986 p. 52.
Portable structured programming language with ANS BASIC pseudocompiler and full-screen editing capabilities. Performs graphics on user-defined coordinates and includes 2D transforms, animation and windowing. Supports 8087/80287 on IBM. Access to ROM routines on Macintosh.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $150

UNIVERSITY OF TORONTO

Computer Systems Research Institute

☐ Concurrent Euclid
Language for implementing OSs, compilers and microprocessor applications. Supports systems programming with concurrency using monitors, absolute address variables, and controlled type violations.
IBM PC ☐ 256 KB req. ☐ Copies sold: 250 since 1978 ☐ Cost: $2,500-$10,000

☐ Turing
String handling, modules, safe variant records, dynamic parameters and arrays.
IBM PC ☐ 256 KB req. ☐ Copies sold: 250 since 1983 ☐ Cost: $75

UXA CORP.

☐ UX-BASIC
Interpreter language with 140 commands, statements and functions and can be compiled for execution and source code protection.
IBM PC ☐ 512 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $683

VICTOR TECHNOLOGIES, INC.

☐ VBASICA Interpreter
BASIC Advanced language. Maps IBM color to Victor 9000 gray scale for color emulation or displays in full IBM color with color display hardware interface and IBM-compatible color monitor. Features advanced graphics, sound, telecommunications support, event trapping, on-screen editor, and GW-BASIC superset.
IBM PC ☐ 256 KB req. ☐ Cost: $295

WANG LABORATORIES, INC.

☐ Advanced PC Basic Compiler
Complements BASIC interpreter included as standard software with Wang Professional.
IBM PC ☐ 256 KB req. ☐ Cost: $295

☐ PC Advanced BASIC Compiler
IBM PC ☐ Cost: $295

☐ PC MS COBOL
Compiler.
IBM PC ☐ Cost: $695

☐ PC MS Compiled BASIC
Compiler.
IBM PC ☐ Cost: $295

☐ PC MS FORTRAN
Compiler.
IBM PC ☐ Cost: $345

☐ PC MS PASCAL
Compiler.
IBM PC ☐ Cost: $295

WATCOM PRODUCTS, INC.

☐ APL Interpreter
Reviewed Feb 1985 p. 126.
Provides APL array files, reporting facilities, full-screen editing, string handling capabilities, event trapping and simulation, manipulation of memory and devices, and machine language functions. Includes color graphics support for 8087 numeric co-processor.
IBM PC, XT, AT, Portable PC, PCjr ☐ 192 KB req. ☐ Copies sold: 450 since 1982 ☐ Cost: $295-$450

☐ BASIC Interpreter
Reviewed Feb 1985 p. 126; Jun 1986 p. 52.
Provides structured programming control, multi-line functions, sequential and relative file capabilities, formatted I/O, integer arithmetic, short or long precision floating point numbers and MAT statements. Allows character-string manipulation.
IBM PC, XT, AT, PCjr, Portable PC ☐ 192 KB req. ☐ Copies sold: 600 since 1982 ☐ Cost: $250

☐ COBOL Interpreter
Reviewed Feb 1985 p. 126.
Features include nucleus, sequential and relative I/O, table handling, symbolic debugging, and statement trace.
IBM PC, XT, AT, Portable PC, PCjr ☐ 192 KB req. ☐ Copies sold: 500 since 1982 ☐ Cost: $250

☐ FORTRAN Interpreter
Reviewed Feb 1985 p. 126.
Supports integer, real and character data types. I/O subset includes sequential/direct I/O and some format specifications. Statement entry simplified by free format.
IBM PC, XT, AT, PCjr, Portable PC ☐ 192 KB req. ☐ Copies sold: 600 since 1982 ☐ Cost: $225

☐ Pascal Interpreter
Reviewed Feb 1985 p. 126.
Provides string and I/O extensions, string manipulation routines, debugging, single-step statement execution, execution trace, a method of reading string input and an extended case statement. Supports color graphics and precision 8087 math.
IBM PC, XT, AT, PCjr, Portable PC ☐ 192 KB req. ☐ Copies sold: 500 since 1982 ☐ Cost: $225

☐ WSL (Waterloo Systems Language)
Used to implement compilers, interpreters, operating system software and application programs.
IBM PC ☐ Copies sold: 1 since 1982

WHITESMITHS, LTD.

☐ C Compiler
Reviewed Jan 1984 p. 91.
Multi-pass compiler supporting full K & R language/library. File output and subroutines may be compiled separately. Features portable library with string manipulation and math functions, and I/O formatting support.
IBM PC ☐ 128 KB req. ☐ Copies sold: 20,000 since 1978 ☐ Cost: $900-$3,500

☐ C/370
C compiler supporting full K & R C language. Produces IBM assembly language. Usable with Whitesmith's assembler and universal linker.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $5,000

☐ Pascal Compiler
Consists of four sequential passes, each with a degree of optimization. Files can be compiled separately, then linked with C or Assembly. Translates Pascal into C code for compilation. Features portable library with string manipulation and I/O formatting support.
IBM PC ☐ 64 KB req. ☐ Copies sold: 20,000 since 1981 ☐ Cost: $1,200-$3,500

MARK WILLIAMS CO.

☐ C Programming System
Reviewed Jan 1986 p. 82.
Supports full K & R C language with extensions, small and large memory models, MSDOS object module format, UNIX compatible libraries, register variables, floating point and 8087 math processor. Includes C source debugger and editor.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $495

Here's what the experts are saying:

"Summit Software Technology's BetterBASIC is potentially one of the most powerful languages on the market."

Art Huston, BYTE Magazine, October 1985 © McGraw-Hill, Inc.

"You could say that this is a completely new language, derived from GW-Basic but with the completeness of Pascal or C. . . . The system is a treat. . . it has so many unique features that it qualifies for a position of its own, and a lofty one at that."

John B. Harrell III, 80-Micro, June 1985

"If you're a BASIC programmer and you'd like to extend yourself into the power of a language like C in a relatively painless way, this is for you."

John Seward, Whole Earth Review, May 1985



Better
BASIC™

"BetterBASIC may be the best of all BASIC programming worlds. It combines all the best features of other microcomputer BASIC environments."
Richard Aarons, PC Magazine, October 29, 1985

PC MAGAZINE EDITOR'S CHOICE—*"To us, Summit Software Technology's BetterBASIC system stands out from the crowd because it combines the best elements of interpreters, compilers, and language structures in a single environment for the programmer of typical talents. Its authors have taken those extra steps to make the language usable in day-to-day programming tasks. . ."*
Richard Aarons, PC Magazine, October 29, 1985

ABLE TO ACCESS FULL MEMORY—BASIC programmers may now overcome Microsoft's 64K barrier. *"BetterBASIC does provide compiled programs, functions and procedures, a windowing environment, extensibility, graphics, and access to 640K bytes. For some people, the last feature alone will be enough reason to discard standard interpretive BASIC."*
Art Huston, BYTE Magazine, October 1985 © McGraw-Hill, Inc.

STRUCTURED—Create well-organized programs using procedures and functions that are easily identified and understood and completely reusable in future programs.

AN INTERACTIVE COMPILER—BetterBASIC compiles to an intermediate code giving you five to six times the speed of traditional BASICs while there is still immediate feedback on line entry, just like an interpreter. When a change is necessary, concise error messages pinpoint the portion of the code where the change is needed.

EASY TO LEARN—BetterBASIC offers sophisticated programming features in a familiar environment—the syntax is 100% GW-BASIC, PC-BASICA compatible. *"With this package, a BASIC programmer will be able to write better, more maintainable code without the learning curve that is associated with learning a new language from scratch."*
Matthew Trask, Dr. Dobbs Journal, May 1985
"The BetterBASIC interactive compiler environment does offer some delights. . . it is syntactically identical to the later versions of Microsoft BASIC."
Richard Aarons, PC Magazine, October 29, 1985

POWERFUL—*"Summit Software Technology's BetterBASIC is potentially one of the most powerful languages on the market. It provides access to a full 640K bytes, speedy compiled programs, windows, a complete system for creating functions and procedures, access to machine-language and to the basic input/output system (BIOS), graphics, event trapping, and extensibility, which allows you to create new BetterBASIC commands. Moreover, the language maintains the interactive nature of structured BASIC while letting you create structured, modular code. All are great features, and they would probably require the purchase of many separate library modules if you were programming in say, C."*
Art Huston, BYTE Magazine, October 1985 © McGraw-Hill, Inc.

NOT COPY PROTECTED—Install BetterBASIC on your hard disk. BetterBASIC is licensed to the programmer, not the machine, so you can compute at work and at home with the same copy of BetterBASIC.

FAST—Depending on how you write your code, BetterBASIC is about six times faster than interpretive BASIC. *"Incremental compiling, however, is what separates BetterBASIC from the pack. The software compiles each line of code when you enter it. As a result, BetterBASIC is both fast and interactive."*
Art Huston, BYTE Magazine © McGraw-Hill, Inc.

"The system is a treat."
John B. Harrell III, 80-Micro, June 1985



"... it's hard to think of a feature of C or Pascal that has not been included in BetterBASIC."

John Seward, Whole Earth Review, May 1985

TRUE FUNCTIONS AND PROCEDURES— *"The best feature of BetterBASIC is the use of true procedures with variables of local scope that exist only inside the procedure. Global variables can be used by declaring them as EXTERNAL in the procedure and providing the actual declaration at a level outside the procedure. A procedure can be declared as RECURSIVE if its name is declared as EXTERNAL inside the procedure. GOSUB and RETURN are both supported, but as you gain experience with BetterBASIC, they will probably fall by the wayside in favor of these Pascal-like, parameterized procedures."*

Matthew Trask, Dr. Dobbs Journal, May 1985

"One way to think of BetterBASIC is as Pascal using Microsoft Basic keywords, commands, and built-in functions and procedures."

Richard Aarons, PC Magazine, October 29, 1985

USER DEFINED KEYWORDS—BetterBASIC can be extended by adding procedures and functions to the language as keywords. *"The MAKE MODULE command will convert all procedures and functions currently in memory to a module that can be added to the B.CNF configuration file. Like C language function libraries, useful procedures can be distributed to other BetterBASIC users as modules with a good degree of source code protection because the source code cannot be derived from a module."*

Matthew Trask, Dr. Dobbs Journal, May 1985

RUNTIME SYSTEM—This module allows a BetterBASIC program to be converted to a stand-alone program in EXE. file format. The resulting programs can be freely distributed without any sub-licensing and/or royalties.

8087/80287 MATH CHIP SUPPORT—Gain the speed which is available by accessing the powerful 8087/80287 math co-processor chip with the optional BetterBASIC 8087/80287 math module.

ACCLAIMED DOCUMENTATION—The BetterBASIC programming manual is a hefty IBM style binder and slipcase chock full of easy to follow programming information. It has an easy-to-read index, several appendices and an alphabetical syntax section which explains each command and gives examples of its uses. *"There are two words that describe the BetterBASIC documentation, they are massive and thorough."* Matthew Trask, Dr. Dobbs Journal, May 1985

WINDOWS—You can define up to five windows, each with independent scrolling, their own borders, titles, foreground and background colors and character attributes. Windows can have eight colors on the screen at one time.

LIBRARIES—BetterBASIC enables you to write reusable code. You can create libraries of pre-tested, error-free procedures and functions for repeated use in different programs.

AND MORE—such as DOS and BIOS calls; chaining and shelling; assembly language calls.



"It could be renamed Much Better BASIC without exaggeration."

Shammas et. al., Computer Language Magazine, May 1985

Better BASIC SPECIFICATIONS

BetterBASIC is GW-BASIC and PC-BASICA compatible; runs on IBM PC and compatibles.

HARDWARE REQUIREMENTS

CPU: IBM PC, IBM PC XT AT, COMPAQ, IBM PC Compatibles
Memory: 256KB min up to 640KB
Display: Monochrome or Color
Disk Drive: One 5¼" floppy, single or double sided
Operating Systems: MS-DOS 2.0, 2.1, 3.0, 3.1

DATA TYPES:

Numeric Data:
BYTE, range: 0 to +255
INTEGER, range: − 32768 to + 32767
REAL, range: Single Precision 8.43×10^{-37} to 3.37×10^{38}
Double precision 4.19×10^{-307} to 1.67×10^{308}
Binary Math, Single/Double/Mixed Precision
Mixed mode numeric expressions will always be REAL.

String data:
Variable from 0 to 32767 characters in size.

Record Variables:
Allows grouping of dissimilar data types into a single logical variable. Elements of a RECORD are addressed as FIELDS and can be of any type, including ARRAY, RECORD and POINTER.

Array Variables:
N-dimensional arrays of any type, including ARRAY, RECORD and POINTER. Dynamic arrays like PC-BASICA

Pointer Variables:
Allows indirect reference to any data type. Can be used with RECORD variable to create linked lists, or to create relational data structures.

In addition supports PC-BASICA record types.

BetterBASIC BENCHMARK COMPARISON

in milliseconds

	Better BASIC			IBM INTERPRETIVE		IBM COMPILED	
	SP*	DP*	8087 DP	SP	DP	SP	DP
REAL FOR/NEXT	1.3	1.4	0.55	0.93	0.93	0.7	0.7
ASSIGNMENT	1.0	1.0	0.93	1.5	1.5	0.1	0.1
ADD	0.77	1.1	0.44	1.6	2.3	0.4	0.4
MULTIPLY	0.88	1.8	0.49	1.9	3.0	0.5	0.8
DIVISION	1.0	3.0	0.49	2.8	19.7	0.6	1.1
LOGARITHM	5.7	15.6	0.55	7.5	64.0	4.0	11.9
EXPONENTIAL	7.4	27.0	0.66	6.5	43.0	3.6	10.8
SINE	4.7	17.0	0.82	17.6	35.0	3.2	12.4
COSINE	4.5	17.0	0.77	25.0	41.0	3.5	12.7
TANGENT	7.2	18.0	0.66	44.0	94.0	6.9	26.0
X^Y	13.8	44.5	1.1	15.2	115.0	7.7	24.0
SQR (SQUARE ROOT)	1.4	6.5	0.33	7.2	95.0	1.1	3.5

*SP = Single Precision
DP = Double Precision

ADDITIONAL BetterBASIC STATEMENTS

ANY ARG
APPEND
ASH
ASSIGN
AUTODEF
BIN$
BREAK
BREAK OFF
BYE
BYT
BYTE
BYTE ARG
BYTE ARRAY
BYTE ARRAY ARG
BYTE ARRAY PTR
BYTE ARRAY STRUC
BYTE PTR
CHANGE
CHAR$
CHECK
CLD
CLW
CODE
COLOR BORDER
COMMAND$
COMPRESS
CONSTANT
DEFINE WINDOW
DEL$
DIR$
DISABLE
DO
DO IF
DO UNTIL
DO X TIMES
DRIVE$
DYNAMIC
END DO
END FUNCTION
END PROCEDURE
ENDPROC
ERRORMODE
EXIT
EXIT GOSUB
EXIT X LEVELS
EXTERNAL
FRAME
FRAME WINDOW
FREEDISK
GOTO END
HEADER
INPUT FROM
INS$
INTEGER
INTEGER ARG
INTEGER ARRAY
INTEGER ARRAY ARG
INTEGER ARRAY PTR
INTEGER ARRAY STRUC
INTEGER FUNCTION
INTEGER PTR
INTERRUPT
INTERRUPT CLEAR
INTERRUPT ON/OFF
INTERRUPT PROC
INTERRUPT RESTORE
INTERRUPT SAVE
INTR
KEY=
KEYWORD ARG
KEYWORD SET
LIST ALL
MAIN
MAKE MODULE
MAKE PROGRAM
MAX
MAX$
MEM
MIN
MIN$
MODULES=
OFFSET
ON INTERRUPT
PRECISION=
PRINT TO
PRINT TO USING
PROCEDURE
PROCS=
PUBLIC
READ RECORD
READCHR
READCHR FROM
READLINE
READLINE FROM
READ RECORD
REAL
REAL ARG
REAL ARRAY
REAL ARRAY ARG
REAL ARRAY STRUC
REAL FUNCTION
REAL PTR
RENAME
REPEAT
RESTART
RESTORE PAR
RESTORE SCREEN
RESULT=
RETRY
ROT
SAVE MODULE
SAVE PAR
SAVE SCREEN
SCOPE=
SCRATCH
SEG
SELECT
SET
SET CURSOR
SH
SHELL
SIZE
SIZE$=
SPAN
STACK=
STATUS=
STATUSLINE
STRING
STRING ARG
STRING ARRAY
STRING ARRAY ARG
STRING ARRAY PTR
STRING ARRAY STRUC
STRING FUNCTION
STRING PTR
STRUCTURE
SYSCALL
SYSCODE
SYSFLAGS
TYPE
UPPER$
WHILE...DO
WINDOW
WOR
WRITE RECORD
WRITE TO
XMEM
XMEM=
XREF

Microsoft Statements Not Supported

DEF USR
MERGE
MOTOR
ON PEN
ON STRIG
PEN
STICK
STRIG
USR

"All are great features, and they would probably require the purchase of many separate library modules if you were programming in say, C."

Art Huston, BYTE Magazine, October 1985 © McGraw-Hill, Inc.

BetterBASIC is GW-BASIC and PC-BASICA compatible. It runs on IBM PC and compatibles.

BetterBASIC—You can easily load your old BASIC programs into BetterBASIC. You can access the full memory of the computer and BetterBASIC gives you most of the advanced features of languages like Pascal and C. $199

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8087/80287 MATH CHIP SUPPORT—Adds support for the 8087 math co-processor chips, which are available as an option for most 8086/8088-based computers. It also supports the 80287 for 80286-based computers such as the IBM PC-AT. This significantly increases the speed of floating point (REAL math). $99

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Norwood, MA 02062
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☐ Let's C
Reviewed Aug 1986 p. 176.
Supports full.K & R C language with extensions, register variables and UNIX-compatible libraries. Includes full screen editor, assembler, linker, librarian and other utilities. C source level debugger option available. Users may upgrade to C Programming System.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $75

WIZARD SOFTWARE SYSTEMS, INC.

☐ Wizard C
Full Lint checking, 6 memory models, 8087 support, in-line assembly language, ROMable data support and full library source code.
IBM PC ☐ 256 KB req. ☐ Cost: $450

WORDTECH SYSTEMS, INC.

SEE AD ON PAGE 321

☐ dB/Compiler
Distributes compiled applications without licensing fees and provides source code protection. Includes cross environment linkers.
IBM PC ☐ 64 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $750

☐ dBIII Compiler
Compiles applications to execute without dBASE III interpreter. Built-in memory management.
IBM PC ☐ 190 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $750

☐ HOT C
C language compiler, program editor and symbolic debugger. Includes preprocessor, code generator, optimizer, macro-assembler, large and small memory models, and UNIX-compatible function library.
IBM PC ☐ Cost: $99

ZEDCOR

☐ ZBasic
Faster version of BASIC retaining most commands and syntax. Supports RS-232 serial communication, string commands, scientific functions configurable up to 54 digits of accuracy and tools for machine language programmers. Device-independent graphics and file commands. Shell/quick sort capability. Portable programs.
IBM PC, XT, AT, PCjr ☐ 48 KB req. ☐ Cost: $90

COMPUTER PERFORMANCE MEASUREMENT

ANAFAZE, INC.

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Measurement and control. ASCII commands. Sets channel sensor types to establish alarm setpoints and control output, and define data storage/printout formats.
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Reports IBM 3278 terminal response times on IBM PC. Captures and reports keyboard activity from any 3278 user session, including think, entry, response, delay and elapsed times. Reports measurements as totals, maximums, minimums, averages, medians and standard deviations.
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☐ PATB (Performance Analysis Tool Box)
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IBM (INTERNATIONAL BUSINESS MACHINES)

☐ PECOMON (Personal Computer Monitor)
IBM no. 6467-045. Monitors application performance by recording system response time and application availability at end-user locations. Collects system, network and application availability figures at customer rather than host locations. Measures network response time.
IBM PC, XT, AT, 3270-PC, Portable PC ☐ 128 KB req. ☐ Cost: $325

IBM PERSONALLY DEVELOPED SOFTWARE

☐ PCWATCH
Reviewed Dec 1985 p. 29.
IBM PDS no. 6276-603. Monitors computer activity at system interface level. Traces external interrupts, BIOS functions, DOS services and user-defined functions built around int instruction. Outputs non-interfering view of system service usage in real time or slow motion. Monochrome and color EGA support.
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☐ GPSM (Graphical Programming of Simulation Models)
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THE LAURIER GROUP

☐ Pendulum-RTM (Response Time Monitor)
PC monitors mainframe response time on ongoing basis. PC emulates terminal executing user-defined scripts. Stores results on diskette. Includes report programs with source.
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PHOENIX COMPUTER PRODUCTS CORP.

☐ Pfinish
Performance analyzer which analyzes programs during execution, producing reports and histograms on amount of activity and time spent on routines. Reports on interrupts, number of times routines are called and number of instructions executed. Accesses symbol table information and overlays.
IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $395

POWER UP

☐ Computer Checkup
Tests system memory, disk drives, keyboard, monitor, peripheral cards, printer, 80-column card and game controls. Warns of problems in early stages. Prints test results.
IBM PC, XT, AT, PCjr ☐ 48 KB req. ☐ Cost: $60

SIMWARE, INC.

☐ SIM/RTM
Monitors response time experienced by end-users within any network. Provides performance data from different parts of network including local vs. remote, SNA vs. non-SNA. Generates response time bar graphs. Command files already existing on disk can be modified, or new ones can be written.
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☐ Diagnostics II
Includes memory test to test every byte. CPU test interprets program designed to execute single/multiple instruction sequences. Printer test executes printer functions. Terminal prints ASCII characters. Disk test detects disk drive malfunctions.
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☐ PC/AT, XT Service Diagnostics
PC/XT tests components of IBM PCs and compatibles including nonIBM hardware. PC/AT tests additional features of IBM AT including 80286 instruction set, 16 MB memory range, DMA/8259 interrupt controllers, timer, CMOS RAM and real-time clock.
IBM XT, AT ☐ Cost: $225

SYSTECON

☐ Systereport
Computerized reporting, performance measurement, maintenance, design of information and control.
IBM PC

TECHNETRONIC USA, INC.

☐ Explicit
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IBM 3270-PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 12 since 1985 ☐ Cost: $7,500-$17,500

TEXAS INSTRUMENTS

☐ Maintenance Package (Diagnostics)
Disk-based diagnostics to aid in identifying hardware problems.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $195

TRAEGER AND ASSOCIATES

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Cross assembler for RCA 1802/4/5/6 processors. Macro-asembler and off-loading facilities. Includes full macro/conditional assembly features and instruction mnemonics defined by processor manufacturer.
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☐ **Mac 8085**
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☐ **Mac 9900**
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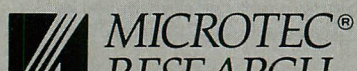
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☐ ULTRA-BASIC Translator
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☐ M2C
Converts BASICA to C source code. Supports C source function library. GEM, TOPVIEW and windows can be called from C source.
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☐ M2CBASIC
Converts BASIC to C BASIC compiler source code. Converts single user programs to multi-user syntax with Record Lockout and Access Manager Support.
IBM PC ☐ 128 KB req. ☐ Copies sold: 3,100 since 1983 ☐ Cost: $225

CALIFORNIA SOFTWARE PRODUCTS, INC.

☐ Baby/34, 36
Reviewed May 1985 p. 193.
Allows RPG II code for System/34 and System/36 to be downloaded and used on micro. Edits and compiles RPG II programs. Supports noncontiguous index keys. Allows numeric fields. Handles multiplication and division. Creates/maintains libraries. Prints data files. Operates on token-ring LANs.
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☐ PC-51
Moves IBM 5110 and 5120 software to run on IBM PC, XT, AT without modifications. Allows networking via COREnet using mix of 5110s, PCs, XTs and ATs. Files are 5110/20 format.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 263 since 1984 ☐ Cost: $2,995

CS LABORATORIES, INC.

☐ Translator
ICOBOL to RM/COBOL translator. Accepts CRT or CARD format input. Syntax translation. Complex screen section translation. ICOBOL environment emulation. Inserts diagnostics and warnings.
IBM PC ☐ 128 KB req. ☐ Copies sold: 5 since 1986 ☐ Cost: $600-$2,000

CYBERNETIC MICRO SYSTEMS

☐ CYS-320
Assists in developing TI Series 320 digital signal processor code.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $295

EMS, INC.

☐ DOS Connection
Allows UCSD Pascal to run simultaneously in MSDOS or PCDOS environment.
IBM PC ☐ 128 KB req. ☐ Copies sold: 75,000 since 1982 ☐ Cost: $100

ENERTEC, INC.

☐ IAR Cross Assemblers, Linker and Librarian
Development system. Output of assembly and link can be downloaded to burn PROMs or put into in-circuit emulators for debugging purposes.
IBM PC, AT ☐ 170 KB req. ☐ Copies sold: 700 since 1983 ☐ Cost: $395 and up

GTEK, INC.

☐ Cross Assemblers
Handles 8748, 8751, 28, 6502 and 68X microprocessors.
IBM PC ☐ Cost: $200-$250

JMI SOFTWARE CONSULTANTS, INC.

☐ BASTOC
Reviewed Oct 1984 p. 117.
BASIC migration tool and BASIC compiler. Minimal external library assumptions. All library calls isolated to a few modules in run-time library.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $495-$695

☐ Series 32000 C Cross Compiler
Downloads programs to DB32016 development board. Implements C language as defined by K & R. Employs 6 32-bit machine registers for declaration. Supports floating point. Comprises native code generator for host and code generator for Series 32000, cross assembler, linker and librarian.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 20 since 1984 ☐ Cost: $1,000-$3,500

MANX SOFTWARE SYSTEMS, INC.

☐ MS-DOS - Macintosh Cross
Develops applications on MSDOS. Downloads program in executable form to Macintosh.
IBM PC ☐ Cost: $750

MERIDIAN SOFTWARE SYSTEMS, INC.

☐ C"
Standard implementation of C language. Available in both self-hosted and cross-compiler configurations.
IBM PC

☐ Pact
Pascal-to-Ada conversion toolkit.
IBM PC

☐ Pascal
Extended systems programming dialect of Pascal. Compatible with ANSI/IEEE and UCSD Pascal. Borrows additional language concepts from Ada and C. Available in self-hosted and cross-compiler configurations.
IBM PC

MICRO FOCUS, INC.

☐ Upgrade III
Preprocessor and migration aid for applications written in RM/COBOL migrating to Micro Focus' Compact Level II COBOL/ET.
IBM PC, RT

MICROTEC RESEARCH, INC.

SEE AD ON PAGE 306

☐ Cross-Assemblers for Micro Processors
Relocatable macro-assemblers. Includes linking loader, conversion and download utilities and object module librarian option.
IBM PC ☐ 64 KB req. ☐ Introduced: 1975

☐ Cross-Compilers
For C, Pascal and PL/M. Global code optimization. Optimal register allocation. ROMable and reentrant code. Floating point library and symbolic debug capability.
IBM PC

☐ mcASM
Retargetable microcode assembler. Non-positional keyword syntax. Macros with keyword parameters. Values defined local to field. Fields assigned to any bits. Variable formats. Relocatable segments. Overlays. Multiple output formats.
IBM PC

☐ Microtec 85
Pascal cross-compiler. Includes relocatable Macro Assembler, linking loader, object module librarian and source level debugger.
IBM PC ☐ 64 KB req.

☐ PL/86
PL/M cross-compiler for Intel 8086, 8088, 186, 188 and 286. Translates source statements into binary object code. Includes 8086 family macro cross-assembler, linking loader, object module, librarian, download utilities and PL/86 compiler. Produces ROMable, re-entrant code for embedded microprocessor applications.
IBM PC, AT ☐ 64 KB req.

MODULA CORP.

☐ Pascal-to-Modula 2 Translator
Accepts superset of Jensen/Wirth Pascal and produces equivalent Modula-2 code for Pascal constructs.
IBM PC ☐ 256 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $100

ORACLE CORP.

☐ Pro*FORTRAN
Precompiler. Embeds SQL data base language statements in middle of FORTRAN programs. Used for FORTRAN programs that must access or manipulate SQL/RT data base information.
IBM RT PC ☐ Introduced: 1986 ☐ Cost: $600

RAPITECH SYSTEMS, INC.

☐ Fortrix-C+, Fortrix-C+/Micro
Translates FORTRAN code to C code. Translates FORTRAN comment lines in place so that internal documentation is retained. Translates typical 50,000 line program in 1-2 weeks.
IBM PC ☐ 512 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $995

☐ Fortrix-C, Fortrix-C/Micro
Translates FORTRAN code to C code. Translates FORTRAN comment lines in place so that internal documentation is retained. Translates typical 50,000 line program in 1-2 weeks.
IBM PC ☐ 512 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $995

RELMS (RELATIONAL MEMORY SYSTEMS)

☐ ASM NSC-800
Relocatable macro-assembler. Includes RLINK, RLOC and OBJHEX. Files in Intel Hex format.
IBM PC ☐ 65 KB req. ☐ Cost: $395

☐ ASM Z8
Contains Z8, RLINK, RLOC, OBJHEX and OBJMOT. Accepts user's program source code statements and translates statements into relocatable object modules.
IBM PC ☐ 128 KB req. ☐ Cost: $395

☐ ASM Z80
Relocatable macro-assembler. Includes RLINK, RLOC and OBJHEX. Translates code into relocatable object modules. Combines relocatable object modules into single module. Files in Intel Hex format.
IBM PC ☐ 65 KB req. ☐ Cost: $395

☐ ASM Z8000
Relocatable macro-assembler. Includes RLINK, RLOC and OBJHEX. Translates code into relocatable object modules. Combines relocatable object modules into single module. Files in Intel Hex format.
IBM PC ☐ 65 KB req. ☐ Cost: $495

☐ ASM 1802/04/05
Relocatable macro-assembler. RLINK, RLOC, OBJHEX and OBJMOT. Translates code into relocatable object modules. Combines relocatable object modules into single relocatable object modules. Files in Intel Hex and Motorola S-record format.
IBM PC ☐ 64 KB req. ☐ Cost: $495

☐ ASM 6800/01/02
Relocatable macro-assembler. Includes RLINK, RLOC, OBJHEX and OBJMOT. Files in Intel Hex and Motorola S-record format.
IBM PC ☐ 65 KB req. ☐ Cost: $395

☐ **ASM 6800/1/2/3/8**
Contains ASM6800, RLINK, RLOC, OBJHEX and OBJMOT. Accepts user's program source code statements and translates them into relocatable object modules. Combines relocatable object modules into a single relocatable object module.
IBM PC ☐ 128 KB req. ☐ Cost: $395

☐ **ASM 68000/8/10/20**
Relocatable macro-assembler. Contains ASM68000, RLINK, RLOC, OBJHEX and OBJMOT. Accepts user's program source code statements and translates them into relocatable object modules.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $495

☐ **ASM 6805**
Relocatable macro-assembler. Includes RLINK, RLOC, OBJHEX and OBJMOT. Translates code into relocatable object modules. Combines relocatable object modules into single module. Files in Intel Hex and Motorola S-record format.
IBM PC ☐ Cost: $395

☐ **ASM 6809**
Relocatable macro-assembler. Includes RLINK, RLOC, OBJHEX and OBJMOT. Translates code into relocatable object modules. Combines relocatable object modules into single module. Files in Intel hex and Motorola S-record format.
IBM PC ☐ 65 KB req. ☐ Cost: $395

☐ **ASM 6811**
Contains ASM-6811, RLINK, RLOC, OBJHEX and OBJMOT. Accepts user's program source code statements and translates them into relocatable object modules. Combines relocatable object modules into a single relocatable object module.
IBM PC ☐ 128 KB req. ☐ Cost: $395

☐ **ASM 8048/42/43/44/50**
Relocatable macro-assembler. Contains ASM, RLINK, RLOC, OBJHEX and OBJMOT. Accepts user's program source code statements and translates them into object modules.
IBM PC ☐ 128 KB req. ☐ Cost: $395

☐ **ASM 8051**
Relocatable macro-assembler. Includes RLINK, RLOC and OBJHEX. Translates code into relocatable object modules. Combines relocatable object modules into single module. Converts absolute object module to object code file in Intel Hex format.
IBM PC ☐ 65 KB req. ☐ Introduced: 1982 ☐ Cost: $395

☐ **ASM 8080/85**
Relocating macro-assembler. Includes RLINK, RLOC and OBJHEX. Files in Intel.
IBM PC ☐ 65 KB req. ☐ Cost: $395

☐ **ASM 9900/95**
Contains ASM9900, RLINK, RLOC, OBJHEX and OBJMOT. Accepts user's program source code statements and translates them into relocatable object modules.
IBM PC ☐ 128 KB req. ☐ Cost: $495

☐ **ASM 99000**
Contains ASM 99000, RLINK, RLOC, and OBJCON. Translates code into relocatable object modules. Combines relocatable object modules into single module.
IBM PC ☐ 128 KB req. ☐ Cost: $595

☐ **ASM-6301**
Contains ASM6301, RLINK, RLOC, OBJHEX and OBJMOT. Accepts user's program source code statements and translates them into relocatable object modules. Combines relocatable object modules into a single relocatable object module.
IBM PC ☐ 128 KB req. ☐ Cost: $395

☐ **ASM-6500**
Contains ASM6500, RLINK, RLOC, OBJHEX and OBJMOT. Accepts user's program source code statements and translates them into relocatable object modules. Combines relocatable object modules into a single relocatable object module.
IBM PC ☐ 128 KB req. ☐ Cost: $395

☐ **ASM-6804**
Contains ASM 6804, RLINK, RLOC, OBJHEX and OBJMOT. Accepts user's program source code statements and translates them into relocatable object modules. Combines relocatable object modules into a single relocatable object module.
IBM PC ☐ 128 KB req. ☐ Cost: $395

☐ **HD64180**
Contains ASM HD64180, RLINK, RLOC, OBJHEX and OBJMOT. Translates code into relocatable object modules. Combines relocatable object modules into single module.
IBM PC ☐ 128 KB req. ☐ Cost: $495

☐ **TRU 80/86**
Translates 8080/8085 source code into 8086 source code.
IBM PC ☐ 128 KB req. ☐ Cost: $700

RR SOFTWARE, INC.

☐ **PasTran**
Source code translation tool with 95% translation capability from ANSI standard Pascal to Ada.
IBM PC, AT ☐ Introduced: 1982

J.H. SHANNON ASSOCIATES

☐ **Metamorphosis**
Translates source program from one language to another. Handles FORTRAN to ADA, JOVIAL to ADA, any language to C and dialect conversions. Implements compilers, assemblers, macro processors and command/query language processors. Reformats character-oriented data base files.
IBM PC ☐ Cost: $387

SOLUTIONWARE CORP.

☐ **ASM32K**
Cross-assembler for National Semiconductor NS32000 family. Macros, conditional assembly, include files, 32-bit expression arithmetic, procedures and string variables.
IBM PC ☐ 56 KB req. ☐ Copies sold: 75 since 1982 ☐ Cost: $500

☐ **CX-32**
Cross-compiler for ASM 32K, UTIL 32 and IDEBUG 32. Creates assembler source or relocatable object code. Object code is compatible with Solutionware's Pascal.
IBM PC ☐ 56 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $300

☐ **Idebug 32**
Communicates with National Semiconductor's In-System Emulator ISE-32. Operates with ASM-32 and UTIL-32.
IBM PC ☐ 56 KB req. ☐ Copies sold: 10 since 1983 ☐ Cost: $750

☐ **PAS-32**
Cross-assembler and cross-compiler for ASM-32K, UTIL-32 and IDEBUG 32. Compatible with ANSI standard, bit variables, NS32000 module linking, register variables and RTS32 run time support.
IBM PC ☐ 56 KB req. ☐ Copies sold: 30 since 1982 ☐ Cost: $500

☐ **Util 32**
Supports ASM32 and cross compilers. Facilitates software development for NS32000 based sytems. Downloads code via serial port to DB16000 development board for execution and debugging. Cross linker, librarian and file conversion utility.
IBM PC ☐ 56 KB req. ☐ Copies sold: 60 since 1982 ☐ Cost: $500

SPECTRUM TECHNOLOGIES

☐ **BASIC to Pascal Translator**
Converts BASIC programs to Pascal, showing Pascal code which corresponds to BASIC code.
IBM PC ☐ 128 KB req. ☐ Cost: $50

SUPERSOFT, INC.

☐ **C Cross Compiler**
IBM PC

TGL, INC.

☐ **Converter**
Translates Pascal into C. Enables p-System, DEC VAX/VMS, or MS Pascal programs run on UNIX or MSDOS micro.
IBM PC ☐ 256 KB req. ☐ Copies sold: 15 since 1984 ☐ Cost: $5,000

2500 AD SOFTWARE, INC.

☐ **6502 Cross Assemblers for IBM P.C. 8086/88 CP/M86**
Cross assembler.
IBM PC ☐ Cost: $100-$200

☐ **6502 Cross Assemblers for IBM P.C. 8086/88 MSDOS**
Cross assembler.
IBM PC ☐ Cost: $100-$200

☐ **8086/88 Assembler with Translator**
Assembles and links code for MSDOS or PCDOS and CP/M-86. MSDOS produces exefile. CP/M-86 produces cmdfile. Submit mode invocation, code, data stock, extra segments, and complex overlay support.
IBM PC ☐ Cost: $100

UNITED STATES SOFTWARE CORP.

☐ **AX/RX Cross Assemblers**
Absolute version translates assembly source file to a downloadable object file in Intel hex format. Relocatable version translates an assembly source file to a relocatable file which may then be linked with other relocatable files, using an included linker, to form a downloadable object file in Intel hex format.
IBM PC ☐ Introduced: 1985 ☐ Cost: $250-$400

UNIVERSAL CROSS-ASSEMBLERS

☐ **CROSS-8**
Table-based cross assembler. Compiles Assembly language programs for most 8-bit processors. Outputs hexadecimal machine language file in Intel, Motorola and Tektronix 8-bit formats. Supports 1802, 3870, 6502, 6801, 6805, 8048, 8051, 8085, 8096, COP400, Z8 and Z80 processor families.
IBM PC ☐ 128 KB req. ☐ Copies sold: 125 since 1985 ☐ Cost: $100

WILD HARE COMPUTER SYSTEMS, INC.

☐ **Choice**
Allows DG's Interactive COBOL programs to run on almost any computer.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $500-$10,000

DATA BASE/ FILE MANAGEMENT

ACCTEX INFORMATION SYSTEMS (AIS)

☐ **FIND (Filed/Indexed Documents)**
Modules cover document control/distribution, records management, biographical/hierarchical searches, image retrieval, office automation, correspondence tracking/scheduling, and optical disk image retrieval. Allows user to download data. Used with word processing, spreadsheet and electronic mail.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 300 since 1979 ☐ Cost: $9,000-$100,000

ACUMEN INFORMATION SYSTEMS, INC.

☐ **ViewFinder**
Information retrieval from dBASE II or III data files. Links windows so related information can be retrieved and displayed. Views up to 5 data files simultaneously. Allows user-controlled window size and position on screen. Presents data as tables or forms.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1985 ☐ Cost: $79

AD & P ANALYSIS DESIGN & PROGRAMMING

☐ **ULTRA-BASE**
Relational DBMS. Key generation with 64 keys per record, 127 characters per search key, search ability with partial keys. Unlimited number of files per data base and security by physical terminal and/or user-supplied code. Word processing, report writing, calculator and spreadsheet. Novell Netware compatible.
IBM PC, XT, AT ☐ 4 KB req.

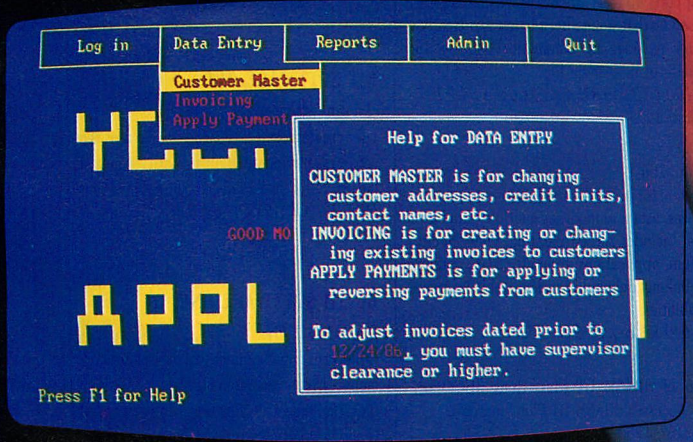
DataFlex does windows!

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UNIX V is a trademark of AT&T.
VAX/VMS are trademarks of Digital Equipment Corp.

CIRCLE NO. 272 ON READERS SERVICE CARD

ADVANCED DATA INSTITUTE, INC.

☐ Aladin

Relational DBMS which interfaces with Wordstar, dBASE II and Lotus 1-2-3.

IBM PC ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $595-$795

ALL EASY CORP.

☐ Datafax

Free-form relational filing. Organized as series of folders which can be filed by 60 to 100 keywords identifying folder, such as name, date or category. Non-key word search. Highlights key word in text. Password protection optional. Uses IBM function keys.

IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 5,000 since 1982 ☐ Cost: $199-$299

ALPHA SOFTWARE CORP.

☐ Data Base Manager II- The Integrator

Provides multi-level search capability. Generates reports and form letters. Supports copy and reconfigure. Numerical planning data and word processing text can be integrated into data bases developed by program. Includes color and multiple input forms. Integrates with Lotus 1-2-3, dBASE II, dBASE III, VisiCalc and MultiPlan.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 30,000 since 1983 ☐ Cost: $295

AMERICAN PLANNING CORP.

☐ BOSS

Data processing/management system. Accepts user's application system performance specifications. Inquiry subsytem performs processing operations on specifications. Complex report generation handled by RPG II report generator. The fourth subsystem, Companion, creates custom application software.

IBM AT ☐ 256 KB req. ☐ Copies sold: 800 since 1983 ☐ Cost: $990

ANSA SOFTWARE

☐ Paradox

Reviewed Apr 1986 p. 154.

Contains Lotus-like menu structure. Uses query-by-example interface for querying. Constructs command files called scripts. Stores data in 2D tables. Provides PAL programming language. Supports date and time, financial, mathematical, statistical and string manipulation functions. Generates reports and forms.

IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $695

APPLIED DATA RESEARCH, INC.

(an Ameritech Co.)

☐ PC Datacom

Supports data exchange between PC and mainframe. Provides query facility, data download/upload, data export/import for exchanging data between PC spreadsheet and application software, report writer and unattended/repetitive task support. Requires ADR's Datacom/DB, Datadictionary and Dataquery systems.

IBM PC, XT, AT, 3270-PC ☐ 512 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $495 per unit

APPLIED SOFTWARE TECHNOLOGY

☐ VersaForm XL Business Form Data Base

Application generator, data base and business form preparation. Imports/exports information from one file to another. Defines/writes procedures using embedded programming language. Data entry checking. Retrieves forms based on values contained. Prepares tabular management reports. Columnar layout. Mailing label printer program.

IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 10,000 since 1984 ☐ Cost: $89-$389

ARGOS, INC.

☐ Tracker

DBMS. Describes activities or events by eight sortable variables and two sortable dates. Five quantities/amounts per record. All codes displayed in window fashion. Tracks activities, production, receipts, shipments, equipment, test results, inventory and personnel.

IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $195

ARITY CORP.

☐ SQL Development

Implements SQL data base language. Works with Arity/Prolog to build intelligent data base applications. Requires Arity/Prolog Compiler or Interpreter.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $295

ARTS COMPUTER PRODUCTS, INC.

☐ DOS/Assist

Used with PC Voice or PC Lens by visually impaired. Summarizes and illustrates commands for DOS 2.0, 2.1, and 3.0.

IBM PC ☐ Cost: $75

ASAP, INC.

☐ ASAP Six

DBMS. Incorporates Universal Relation technology, which indexes, arranges data items into files and organizes files into data bases. No syntax or commands are required to operate system. Opens up to 12 files simultaneously for screen design and report generation.

IBM PC, XT ☐ 192 KB req. ☐ Copies sold: 3,500 since 1984 ☐ Cost: $395

ASHTON-TATE

☐ dBASE cTool Series/The Graphic Library

Creates customized bar graphs, pie and line charts. Includes built-in C functions and engine for adding functions to dBASE III Plus applications.

IBM PC, XT, AT ☐ Cost: $90

☐ dBASE cTool Series/The Programmers Library

Handles numerical functions. Includes built-in C functions and engine for adding functions to dBASE III Plus applications.

IBM PC, XT, AT ☐ Cost: $90

☐ dBASE II

Reviewed Jun 1984 p. 56; Jun 1984 p. 181.

Relational DBMS. Manipulates data in one or more files at same time. Supports customer profiling, medical office management, securities, portfolio analysis, production scheduling and management, time billing, job costing and subscription fulfillment. Includes ZIP, a screen builder/report writer.

IBM PC ☐ 128 KB req. ☐ Copies sold: 300,000 since 1981 ☐ Cost: $495

☐ dBASE III

Reviewed Jan 1985 p. 64.

Supports over a billion records per file, limited only by user's computer system. Supports up to 10 open files. Accesses information in one file based on data in another related file. Handles procedures, parameter passing and automatic variables. Includes up to 32 procedures in a single file.

IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 197,000 since 1984 ☐ Cost: $695

☐ dBASE III Plus

Reviewed May 1986 p. 166.

Data management system for standalone or LAN environments. Assistant feature creates, uses and modifies multiple data bases via pull-down menus. Includes screen painting, view facility, advanced query system, applications generator, data catalog, code encryption and linking, debugging and assembly language calls. Multi-user capabilities.

IBM PC, XT, AT ☐ 640 KB req. ☐ Cost: $695

☐ dBRUN III Plus

Execute-only version of dBASE III Plus. Runs dBCODE/dBLINKER utilities. Accesses dBASE III Plus functions.

IBM PC, XT, AT ☐ Cost: $250

☐ MultiMate On-File

Permits users to search, select, sort, edit, view, print, transfer and cross reference data. Stores up to 2,200 text characters per card. Generates and prints reports, lists and labels. Transfers information from Document Summary screens to card boxes.

IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $145

☐ RunTime

Includes dBCODE and dBRUN modules. dBCODE encrypts dBASE II command file, protecting it from being read or copied by the end user. dBRUN runs code condensed by dBCODE and implements most dBASE II features. End user never has access to dBASE dot-prompt and cannot write a program.

IBM PC ☐ 128 KB req.

AUTOMATA DESIGN ASSOCIATES

☐ VMI PROLOG

DBMS. Virtual and resident data bases may be mixed. Updating algorithim preserves the format of the data base as typed while making only necessary changes to the data base in central memory.

IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $100

BAR CODE APPLICATIONS, INC.

☐ File Tracker

For 10,000-100,000 files. Bar codes and scanners control movement of material. Searches by file number, subset department, file name, contents of file, user name. Reports late return notification, material out by user, activity and last date used by item and customized user requests.

IBM XT, AT ☐ 512 KB req. ☐ Copies sold: 6 since 1985 ☐ Cost: $995

BATTERIES INCLUDED

☐ Consultant

Built-in templates include inventory, budgets and catalog. User customizes file formats. Features in context, on-screen help, 5 search operators plus wild card capability, unlimited number of open files and extensive macro capability. Supports special print features and generates forms.

IBM PC, PCjr ☐ 128 KB req. ☐ Cost: $100

BENEDAT SYSTEMS GROUP

(division of Benefit Management Corp.)

☐ DB Task

Relational, multi-file data base manager. Creates 99 interactive applications each with 99 defined tasks. Protects data integrity and application access by ID entry. Accommodates unlimited records and 24 index fields. Multi- or single-user versions.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $99

BIT SOFTWARE, INC.

☐ Form Manager

User creates forms on the screen and uses them for data storage, retrieval and update. Built-in math formula allows on-line calculations. Sorts on 3 fields. Includes report writer.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $195

BLYTH SOFTWARE, INC.

☐ OMNIS 3 Plus

DBMS and development tool for vertical applications. Provides mouse-driven programming language. Supports up to 12 open files simultaneously. Relational or hierarchical. Links screen and report formatting with user-defined entry sequences allowing overlays and custom messages/menu screens.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $495-$990

BORLAND INTERNATIONAL, INC.
SEE AD ON INSIDE COVER & PAGE 1

☐ Reflex, the Analyst
Reviewed Apr 1986 p. 189.
Retrieves data from user's data base or other applications for analysis. Generates columnar, summary or sorted reports, and bar, stacked bar, pie charts, line and scatter graphs. Calculates totals, averages, counts, maximums, minimums, standard deviations and variances.
IBM PC, XT, AT, PCjr, 3270-PC, Portable PC ☐ 384 KB req. ☐ Cost: $100

BOS NATIONAL, INC.

☐ Finder
Multi-user data storage and retrieval system. Stores, controls and maintains facts and figures. Maintains inventory, personnel records, real estate property, insurance policies and mailing lists.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1978 ☐ Cost: $450 (single-user); $900 (multi-user)

BPI SYSTEMS, INC.

☐ Information Management System
Adds, deletes and redefines items in records without rebuilding entire file. Edits entries for format of numeric, alphanumeric and data fields, preventing data entry errors. Permits information in any field to be compared to other fields. Performs basic math functions.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $195

BRITTON LEE, INC.

☐ IDM Host Software
Manages relational data bases by off-loading routine functions from host computer. Includes an integrated report/query system and report generator.
IBM PC

BSC COMPUTER SYSTEMS, INC.

☐ QL/1 (Quantum Leap/1)
DBMS and application generator. Includes screen, menu and report generators, B-Tree Indexed Access Method and sort. File maintenance module included. Parameter driven. Generates images.
IBM PC, XT, AT ☐ 96 KB req. ☐ Cost: $6,000

BUSINESS TOOLS, INC.

☐ TAS-Plus
Relational DBMS. Offers procedural programming language, data dictionary, source code editor, screen and report format painter, program generator, run-time compiler and data restructure facility. Exports data in ASCII files. dBASE conversion utilities. Creates applications transportable across OS.
IBM PC ☐ 384 KB req. ☐ Copies sold: 7,000 since 1985 ☐ Cost: $69

BUTTONWARE, INC.

☐ PC-File III
Menu driven with optional encrypted data security. Sort and fast binary search on any field. Supports DOS subdirectories and exchanges data with other programs. Automatic time, date, unique, or constant fields. User defined macros. Comparison, generic, wildcard, and soundex searches.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500,000 since 1982 ☐ Cost: $60

☐ PC-File/R
Menu driven with optional encrypted data security. Relational read capabilities and built in word processor with mailmerge. Supports DOS subdirectories and exchanges data with other programs. Includes automatic fields, binary search and search or sort on any field. User-defined macros utilizing any command or key.
IBM PC ☐ 256 KB req. ☐ Copies sold: 6,000 since 1986 ☐ Cost: $149

CACTUS COMPUTERS, INC.

☐ Easy-K
Front end for Knowledgeman DBMS. Menu-driven ad hoc query and reporting. Allows user to create, save, recall and modify all settings. Provides printer settings, titles, column headings and environment and utility variables.
IBM PC ☐ 256 KB req. ☐ Copies sold: 3 since 1984 ☐ Cost: $120

CASHER ASSOCIATES, INC.

☐ TRACS
Tracks 1,000,000 files. Includes retention facility. Controls references or withdrawals. Provides activity and usage information, report generator and custom data base fields. Captures deposit information upon its receipt by file clerks. Includes MIS and retention schedule.
IBM PC ☐ 512 KB req. ☐ Copies sold: 2 since 1984 ☐ Cost: $5,000

C.D.A. INTERNATIONAL SOFTWARE CORP.

☐ Datamaster
Interfaces with word processing and telecommunications systems. Provides on-line information retrieval and update of single or multiple data base sources. Allows mixed fields on same screen. Updates 1 or more data bases from same screen. Links screens.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $495

CHAMPAIGN SYSTEMS, INC.

☐ PC Dossiers
Records and cross-references detailed customer profiles, targets sales opportunities, identifies purchasing trends, recalls which products clients are interested in, provides specific descriptions of clients best suited for particular products, prints reports and mailing labels and merges data with word processors and spreadsheets.
IBM PC ☐ 128 KB req. ☐ Copies sold: 8 since 1985 ☐ Cost: $245

CHANG LABORATORIES, INC.

☐ FilePlan
User views data in worksheet single record mode. Files may be defined before or after entry, and re-named without losing material. Prompts may be user-defined.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $295

CHASE ECONOMETRICS
(subsidiary of Chase Manhattan Bank)

☐ XPLORE
Data retrieval. Locates data by subject. Prints description of each series, including data range, periodicity and source. Moves data directly to XSIM or the PC ready for analysis.
IBM PC, XT, AT

CLG TECHNOLOGIES CORP.

☐ Swift-Tech
File retrieval with natural language and text interface. Disregards grammar, syntax and spelling errors. Stands alone or integrates with several word processing and DBMSs.
IBM PC, XT, AT ☐ 112 KB req.

CMDS

☐ TEAM MATE Data Base Manager
Builds screens for entry, update or deletion of data in up to 160 fields. Provides record selection for output. Includes report writer and forms writer. Creates labels. Provides cross-tab statistics.
IBM PC, XT, AT ☐ 128-256 KB req. ☐ Copies sold: 100 since 1980 ☐ Cost: $500

CODE CRAFT CORP.

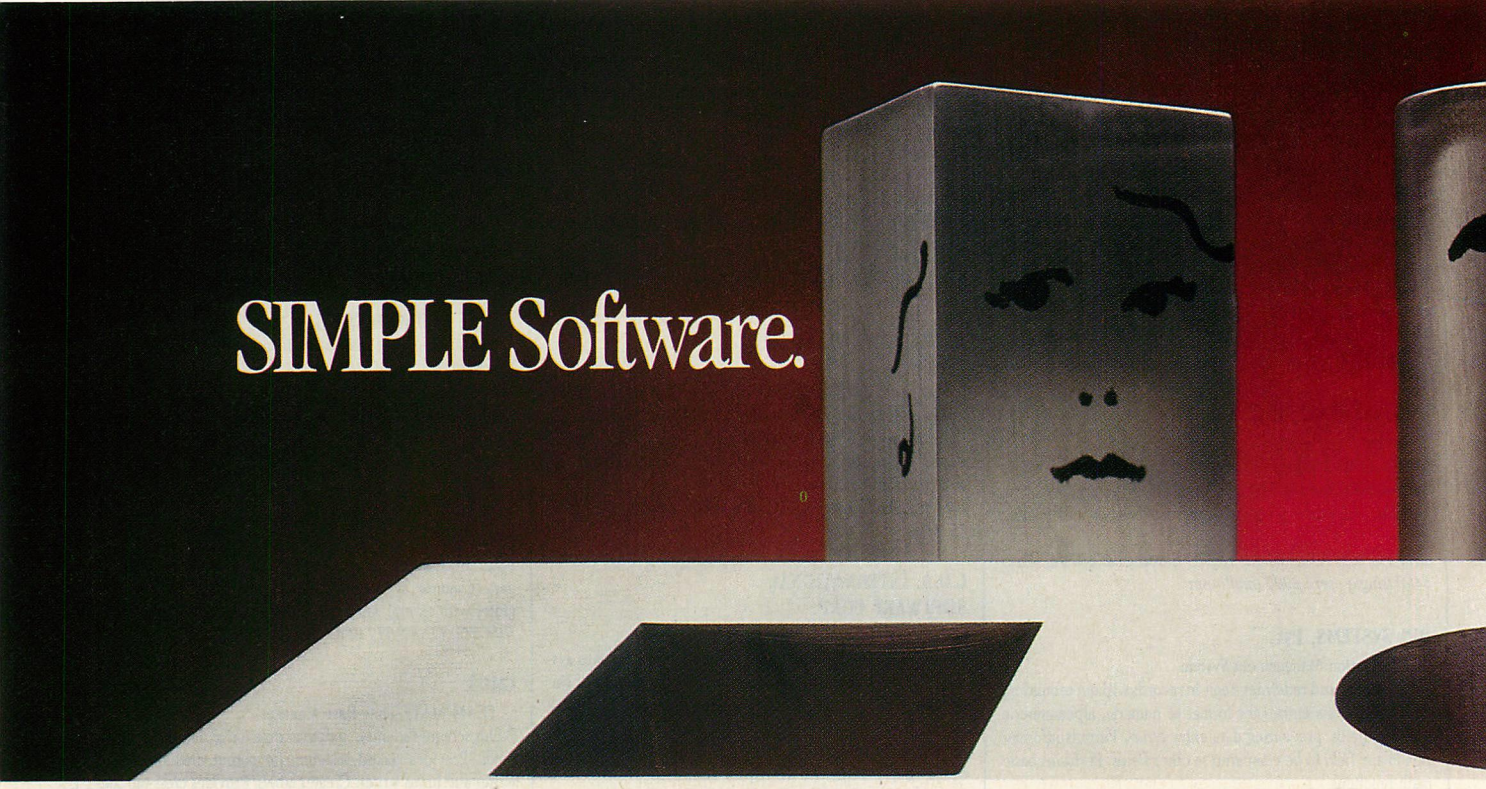
☐ dCOLOR III
Interactive module for setting and resetting color attributes in dBASE III. Distributed as either clipper object code modules or DBRUN files. Supports all dBASE III color options.
IBM PC ☐ 156 KB req.

MANUFACTURERS TAKE NOTE!

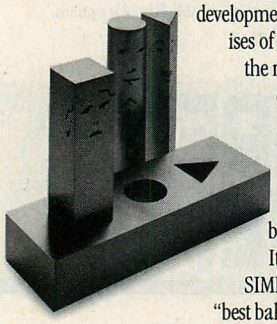
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SIMPLE stands for SYSTEM IMPLEMENTATION by EXAMPLE.™ It's an easy-to-use applications *design tool,* a powerful *relational database manager,* and a non-procedural, full-featured *applications generator.*

1. It's a Design Tool.

SIMPLE allows you to quickly prototype applications on the microcomputer. You can sit right down and draw, edit, and specify, processing logic with a few key-strokes.

SIMPLE's unique human engineering aids you in the process of structured design by organizing your development efforts in a building-block fashion. For less experienced developers, this built-in process literally guides you through the entire applications development process. This same structure enables experienced developers to move quickly and easily from task to task.

2. It's a Relational Database Manager.

SIMPLE offers exceptional speed performance because it is written in Assembler and incorporates a highly-optimized B-tree data access method that eliminates record sorting.

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SIMPLE's relational joins are easy to construct and the most efficient to process. Rather than a physical view, you get a logical view without the need to create an additional physical file at any time. Joins are accomplished dynamically at time of processing and support one-to-many and many-to-many relationships.

With SIMPLE, database management becomes more than just a question of "how many" files or "how many" fields, but a question of "how much more" you can do, and "how easily" you can do it.

3. It's an Applications Generator.

It is the most practically functional applications generator on the market today. SIMPLE is a completely non-procedural applications generator, never forcing you back to procedural methods, letting you accomplish even the most complex data-based applications in the most easy-to-use-and-understand fashion.

A SINGLE, VISUAL 4GL LANGUAGE.

Uniquely, every step in program development from input screens, to reports, to complex processing logic is accomplished in SIMPLE's three all-visual worksheets. It is fully non-procedural and totally picture-oriented. Design right on the screen, and SIMPLE's built-in pattern-recognition logic automatically generates all the application code for you. You never have to leave SIMPLE's 4GL non-procedural technique. SIMPLE creates solutions right in front of your eyes making it a picture-perfect application development environment.

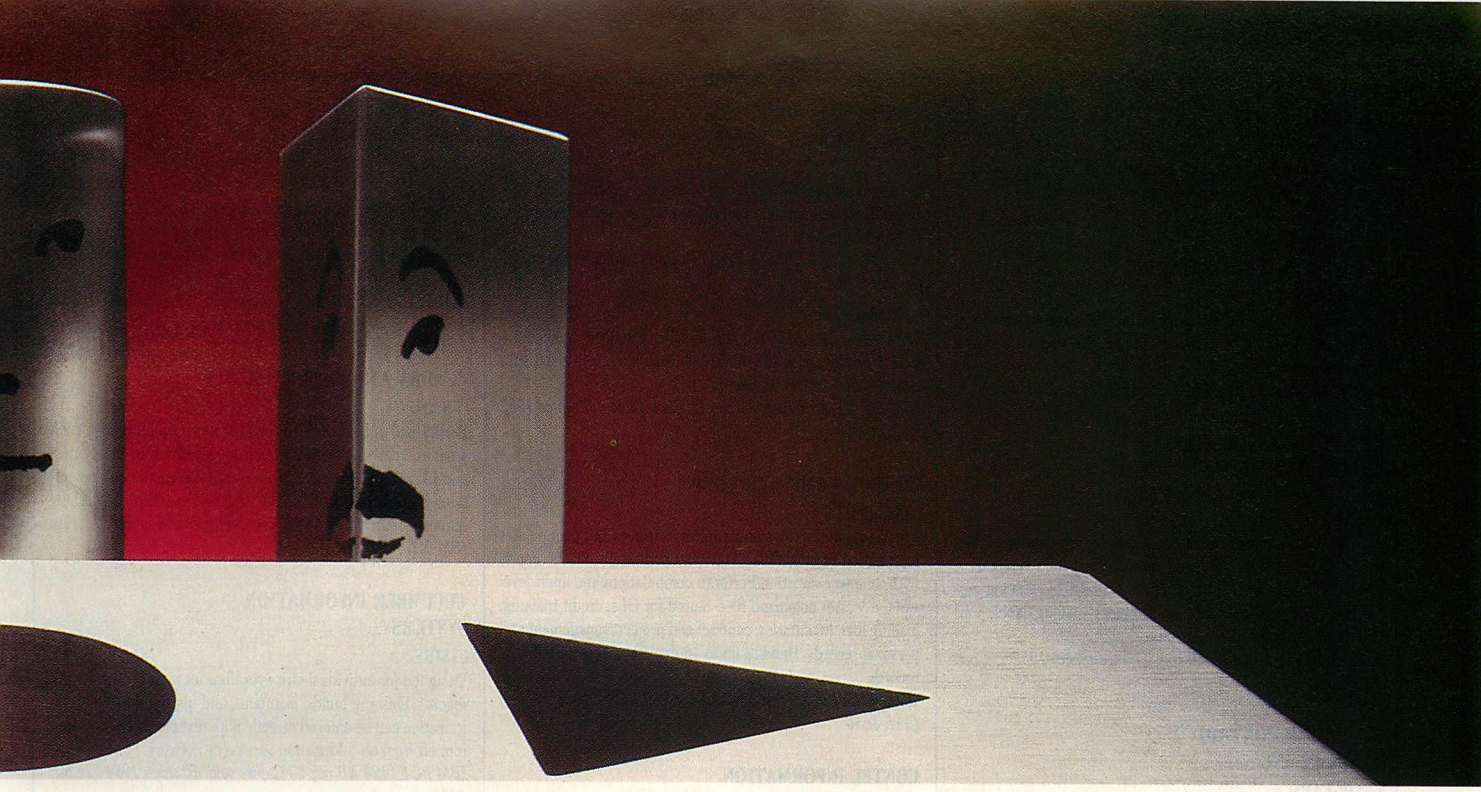
POWERFUL & EASY-TO-LEARN WORKSHEETS.

Now, here's how to turn "do-it-tomorrow" backlogs into "done-yesterday" working programs.

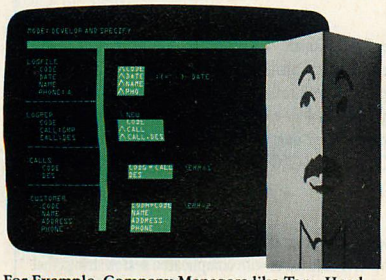
SIMPLE provides three worksheets — a File Worksheet, Specify Worksheet and Design Worksheet. Developing a program in SIMPLE requires you only to define a file; SIMPLE creates the basic program for you. You can enhance the program on SIMPLE's Design and Specify Worksheets.

In the Design Worksheet, you simply paint or draw an example of the input screen or report you want. The Design screen may be painted exactly the way you want it using SIMPLE's built-in editor.

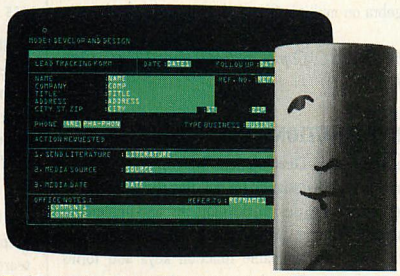
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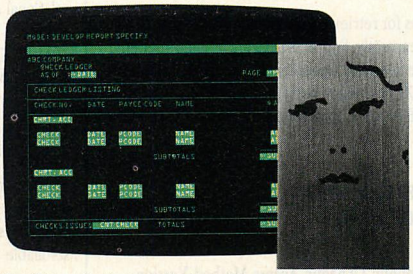
tool for every Tom, Dick and Harriett.



For Example, Company Managers like Tom, Head of Customer Support for a Chain of Retail Outlets, easily develop customized applications. SIMPLE lets Tom develop a Branch Reporting System which reports information from support service calls. Tom wants a system which validates certain information and provides a customer history to improve the branch's support capabilities. With SIMPLE's Specify Worksheet on screen, Tom simply joins data from four different files and establishes their relationship. This enables the user to pull-up call classifications, also verify if the caller has been called on before.



For Example, Information Center Staff Members like Dick, who works for a major Computer Hardware Manufacturer, develop new microcomputer applications systems with SIMPLE. Dick is working with the Director of Marketing on a lead-tracking system. Today, they're reviewing the data entry screens developed with SIMPLE. Dick sits down to review the main data entry screen which shows the prospect demographic information, the media source and date from which the lead was generated, and the fulfillment literature to be sent.



For Example, System Analysts/Programmers like Harriett easily prototype design changes, interacting directly with department heads. Harriett has completed the prototyping with the help of SIMPLE of some previously requested changes in a large Insurance Company's Mainframe Payables System. She has built a test database with data imported from the mainframe and is going to review a check-ledger report in the Controller's office on her portable computer. Harriett shows the Controller exactly how the new system gives a report of all checks issued.

The full-screen editor offers a wide range of capabilities to aid you — including the ability to delete or insert a character or an entire line, move or copy blocks of information, lasso text or variables to move around the screen and window to other worksheets in one or two keystrokes.

Your design worksheet invokes powerful specification macros that provide your application user with a richness of features and functionality that you demand from a development tool. Pop-up a window and browse through another file, interrupt data entry to perform another program, provide context-sensitive help, and perform conditional processing based on the user's input.

SIMPLE's sophisticated, built-in pattern-recognition logic automatically creates your program.

In the Specify Worksheet, you implement your processing logic. No longer do you have to fall back to procedural programming to get the processing power you need. Range checking and data validation are easily implemented, visually. Conditional processing statements are quickly set up. Arithmetic operators, date operators, and a full set of string functions are available. You specify an example of how you want your data processed, and SIMPLE creates the program.

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SIMPLE gives you unlimited design flexibility in "point-and-shoot menu" creation. You have the total freedom to build menus before, during or after development, unmatched in other systems.

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IBM PC ☐ Cost: $495

COMPUMAX ASSOCIATES, INC.

☐ Microbase
Information manager and report writer. Features explanations, safeguards, key word search capabilities, file access, updated options and reporting.
IBM PC ☐ 64 KB req. ☐ Introduced: 1977 ☐ Cost: $149

COMPUTER ASSOCIATES INTERNATIONAL, INC.

Micro Products Division

☐ EasyFiler
Uses ISAM file management for access by any one of 10 key fields without sorting. Offers 7 user-defined field types. Provides phonetic search. Subgrouping and 5-level sequencing supported. Mail merge capability produces mailing labels and letters from a full-screen text editor.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1982 ☐ Cost: $195

COMPUTER CONTROL SYSTEMS, INC.

☐ DB-FABS
Allows for relational data modeling with interfile relationships. Transfers data to and from other applications via standard ASCII files. Run-time mode handles file I/O, indexing, sorting, screen management and reports.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $295

☐ FABS Plus
Maintains key files for retrieval in large data files. Up to 20 files may be open concurrently. Supports network or multi-user environment. Generic searches, multi-level sequencing, duplicate key support, ASCII or integer keytype permitted.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $195

COMPUTER DEVELOPMENT SPECIALISTS OF LONG ISLAND, INC.

☐ SDAM/II (Symbolic Dynamic Access Method-Version II)
Creates and maintains data base with multiple keys and generates custom report formats. Includes subroutine package, which incorporates data management capabilities into user's software. Modules include SCREATE, SLOAD, SQUERY, SWRITER, SREPORT and SPACK.
IBM PC ☐ 48 KB req. ☐ Copies sold: 15 since 1981 ☐ Cost: $50

CONCENTRIC DATA SYSTEMS, INC.

SEE AD ON PAGE 19

☐ C.I.P. (The Concentric Information Processor)
DBMS and report generator. User creates reports and data entry screens in any format by moving fields interactively, on-screen. Allows up to 40 fields per record, any or all of which can be keys. Saves up to 76 reports per file. Accommodates up to 50 characters per field and 65,000 records per file.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $295

CONCEPT OMEGA CORP.

☐ Thoroughbred IDOL Data Base Management System
DBMS for on-line microcomputer development of business/personal applications. Uses dictionary approach to build data base from data element, record and file definitions. Includes English language screen prompts. Features self-documenting and increased control redundancy.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10,000 since 1979 ☐ Cost: $695 and up

CONCEPTUAL SOFTWARE, INC.

☐ Prodas/Database
Relational DBMS. Performs data base printout, data entry, data base sort, menu building, access to external program, data base transfer, macros and text editing. Syntax and operation similar to SAS's Data Step.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $720

☐ Prodas/Eval
Data bases contains 20 records. Includes PRODAS documentation, 5 floppy disks, PRODAS/Database, descriptive statistics modules and PRODAS/Graph.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $40

CONDOR COMPUTER CORP.

☐ Condor 3
Uses English-like commands. Stores, retrieves and manipulates information on single files. Maintains audit trails. Prints reports with summary statistics. Performs computations and multi-level sorts. Accesses command files. Suited for GLs, credit tracking, mailing lists, inventories, contract and project management and personal records. Handles up to 18 decimal places and 65,534 records.
IBM PC ☐ 128 KB req. ☐ Copies sold: 150,000 since 1977 ☐ Cost: $650

CONTEL INFORMATION SYSTEMS, INC.

(subsidiary of Continental Telecom, Inc.)

☐ RTFILE
Interactive, relational DBMS. Includes set of FORTRAN, PASCAL and MACRO-11 callable subroutines to access data base. Paints CRT screens for use in data base maintenance and retrieval, performs full or partial key searches, generates reports using relational algebra on multiple files and adds or deletes keys in a record.
IBM PC ☐ 64 KB req. ☐ Copies sold: 600 since 1979 ☐ Cost: $500-$5,000

CONVERGENT SOLUTIONS, INC.

☐ ADS (The Application Development System)
Fourth generation DBMS designed for building systems on CT's hardware. Permits users to design, develop, test and implement complex systems. Features programming language, multiple scrollable windows, programmable function keys and forms management.
IBM PC ☐ 512 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $6,000

COSMOS, INC.

☐ Network REVELATION
Transaction oriented data base with record locking and filing system. Manages data in a network environment. Accepts converted, single-user REVELATION applications.
IBM PC ☐ 320 KB req. ☐ Introduced: 1984 ☐ Cost: $495

☐ Revelation
Reviewed Feb 1986 p. 160.
Data base application building tools include dictionary builder, structured programming language, fourth generation design tool, English-like query language and report writer.
IBM PC ☐ 320 KB req. ☐ Copies sold: 18,000 since 1983 ☐ Cost: $950

COURTNEY BUSINESS SYSTEMS, INC.

☐ Courtney Database
Interfaces with accounting, graphics, spreadsheet and word processing packages. Combines or separates data files, posts accounting or other data from another file and transfers fixed or variable length data from or to other software packages or ASCII files.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 400 since 1983 ☐ Cost: $195

CP INTERNATIONAL, INC.

(division of Computer Power Group)

☐ Status
Text and unstructured information storage and retrieval. Allows references to be retrieved from large volumes of text, by word, phrase or number. Displays the number of references found, and the actual reference. Allows user to browse around reference.
IBM PC ☐ 1,000 KB req. ☐ Copies sold: 300 since 1975 ☐ Cost: $15,000-$80,000; lease plans available

CUADRA ASSOCIATES, INC.

☐ Star/PC
DBMS and information retrieval system. Applicable to such areas as archives, electronic publishing, federal records centers and libraries, information centers and clearinghouses, law offices, museums, patent-search offices, rare book publishing houses, research organizations, universities and special libraries.
IBM XT, AT

CUCUMBER INFORMATION SYSTEMS

☐ SIRE
Designed for individual offices or libraries to store and retrieve records. Designs, builds, maintains, and queries data bases. Information can be entered directly with text processing or transformed from an information service or network.
IBM PC ☐ 128 KB req. ☐ Copies sold: 70 since 1984 ☐ Cost: $600

DATA BASED SOLUTIONS, INC.

☐ dBASE III dLetter Generator
Merge letter generator for dBASE III. Allows end users to print form letters from dBASE III data files.
IBM PC ☐ 256 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $15

☐ dNames Professional
Reference and master mailing program for dBASE II. Produces 1-up, 4-up and Cheshire labels. Produces user-defined labels, mail merge files, Rolodex cards, 80- and 132-column reports. Includes menu-based query system for selective searches.
IBM PC ☐ 64 KB req. ☐ Copies sold: 2,501 since 1982 ☐ Cost: $49

☐ dQ
Menu-based query program for dBASE II. Allows end-users to search dBASE II data bases with complicated search strings that are created based on responses to simple menus. Lets user select data base and field and then specifies search criteria from menu.
IBM PC ☐ 64 KB req. ☐ Copies sold: 532 since 1984 ☐ Cost: $15

☐ dSolutions ProPak
Utility/application toolkit for dBASE II. Provides mailing label generator that creates and stores up to nine custom label formats. Creates multi-column reports instead of single-column dBASE II listings. Creates dBASE II directory on each disk.
IBM PC ☐ 64 KB req. ☐ Copies sold: 278 since 1983 ☐ Cost: $49

☐ Memo Searcher
Search utility for dBASE III. Allows end users to search for keyword occurrences in dBASE III memo fields. Reports results of search to screen or data base file where list is created showing record numbers where matches were found.
IBM PC ☐ 256 KB req. ☐ Copies sold: 217 since 1985 ☐ Cost: $15

DATA LANGUAGE CORP.

☐ Progress
Reviewed Mar 1986 p. 142.
Fourth generation language, data dictionary, I/O formatter, full screen syntax checking editor, and automatic recovery and data base restoration after system failures.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $695-$19,500

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☐ B-Tree Record Management System

C subroutine library. Includes library management tools. Maintains records/keys of varying size. Allows search and retrieval of records. Provides B-Tree indexed access.

IBM PC ☐ 24 KB req. ☐ Introduced: 1985 ☐ Cost: $1,000

DATAMATE CO.

☐ FASTFILE

Allows user to define fields for numbers, dates and alphabetic information. Uses Datamate's English language report writer, EnQuery, to compare, select and retrieve information. Includes interactive screens, value-checking and user-defined defaults. Reads information to or from data base via standard sequential files.

IBM PC ☐ 128 KB req. ☐ Introduced: 1984

DATAMED RESEARCH, INC.

☐ LogiQuest II and III

File management system with relational structure, sorting, searching, rearrangement and selection of data. LogiQuest III adds data independence, allowing each user individual access regardless of how the data is stored.

IBM PC ☐ 64 KB req. ☐ Copies sold: 1,000 since 1981 ☐ Cost: $650

DATAMYTE CORP.

☐ Attribute

Stores and analyzes data collected by DataMyte 1000. Transforms data into various charts. Displays graphs on color/graphics system before printing. Allows files to be saved, copied, deleted, reviewed and edited. Prompt loops for data collection. Prints barcode labels.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $995

☐ Fan

SPC data base. Stores and edits SPC data collected by DataMyte data collectors in factory area network. Transforms data analysis into X-bar and R, X-bar and sigma, CuSum, histogram, capability and data reports. Converts data files to Lotus 1-2-3 import file format.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $995

☐ SQC

Quality control data base with review and editing, setup and sending of data collection routes to DataMyte.

IBM PC ☐ 256 KB req. ☐ Cost: $795

DATANETICS

☐ Data-Trac

Supports 26 users and standard or user-defined data bases, menus and reports. Provides create/modify functions, data update/retrieval, search capabilities, file security, message feature and interface to other programs. Tags items that require attention.

IBM PC, XT, AT ☐ Copies sold: 2 since 1986

DAYFLO, INC.

☐ DayFlo

Text data base. Manages structural and text information. Tracks clients and key accounts, manages projects and handles office correspondence.

IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 4,000 since 1984 ☐ Cost: $495

☐ ReportFlo

Creates reports, lists, tables, letters and documents from records stored in DayFlo. Incorporates text and columnar tables in the same document. Includes calculations and formula capabilities as well as totals, counts, and averages. Features document titles, headers, footers, page numbering and mail merge capabilities.

IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 4,000 since 1984 ☐ Cost: $195

D&B COMPUTING SERVICES

(a Dun and Bradstreet Co.)

☐ PC NOMAD

Relational fourth generation language/DBMS. Provides procedural and non-procedural languages, active data dictionary, windowing and communications.

IBM XT, AT, 3270-PC ☐ 640 KB req. ☐ Cost: $795

DBI SOFTWARE PRODUCTS

☐ Kaleidoscope

Integrates data into the word processing programs. Calc merge interfaces data base files with a bi-directional data exchange.

IBM PC ☐ 64 KB req. ☐ Copies sold: 750 since 1983 ☐ Cost: $495

DESKTOP SOFTWARE CORP.

☐ NPL Information Management System

DBMS and application developer. Creates files, performs edit and validation checks, paints data entry screens, selects, sorts and merges data records and prints simple or formatted reports. Uses English-based commands. Applications range from mailing lists and form letters to accounting, payroll, scheduling and IC.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2,000 since 1981 ☐ Cost: $495-$990

☐ NPL/R Database Applications System

Fourth generation language for relational DBMS. Uses English-like sentences for queries and report generation and for business applications. Handles application programming and menu development. Users may open up to ten files at one time. Reads and reports on data in ASCII text format from any source or directly from dBASE II files.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $595

DTRO, INC.

☐ GDBS (General Data Base System)

Interactive file definition and maintenance. User specific field name and length and type (numeric or data). Adds or reviews records, changes contents, lists files and selects and lists records by specific criteria.

IBM PC ☐ 128 KB req. ☐ Copies sold: 2 since 1986 ☐ Cost: $100

EAGLE ENTERPRISES

☐ CITATION Fact Management

Text-oriented data base. Supports access and record selection by keywords and wildcard strings. Uses WordStar-compatible on-screen editing. Produces MailMerge-compatible files for printing.

IBM PC ☐ 128 KB req. ☐ Copies sold: 2,500 since 1982 ☐ Cost: $185

ELLIAM ASSOCIATES

☐ Superfile

Uses free-form data base created by word processor. Searches for key words including and/or/not. Displays, prints or saves on file data retrieved. Handles multiple disks and data bases.

IBM PC ☐ 48 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $175

ENSIGN SOFTWARE

☐ ISAM (Indexed Sequential Access Method)

Provides keyed data storage in random files. Handles record storage, retrieval, sorting, updating, deleting, buffering, searching and disk space management. Supports 32,767 records per file, seven simultaneously accessed files and multiple keys.

IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 800 since 1982 ☐ Cost: $70

EVANS NEWTON, INC. (ENI)

☐ Info-Select

Supports 400 records per disk, each with 15 definable data input fields. Categorizes records by any combination of 10 fields, each with 12 subcategories. Search/report feature generates mail labels, category counts and record listings.

IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $100

EVOLUTION

☐ Masterfile

DBMS. Customer, marketing and statistical information. Merges with word processing. Predefined list and label printing formats if word processing is not desired. Features 26 search methods. Service, fact finding and marketing information manipulation producing electronic prospect selector or market analyzer.

IBM PC ☐ 128 KB req. ☐ Copies sold: 93 since 1982

EWDP SOFTWARE, INC.

☐ Filebase

Variable length fields DBMS. Comma delimited format for such letter-merge programs as MailMerge, MultiMate, WordPerfect, Freestyle and Displaywrites. Creates subset files. Built-in computation and report generation. Sorts on embedded last names and zips. Functions as file processor.

IBM PC ☐ 64 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $125

EXECUWARE, INC.

☐ NEXT STEP

Provides for creation of data base records containing 16 to 510 characters and inclusion of up to 99 data fields per record. User may specify edit criteria. Two levels of password protection are available. Compiles generated programs using Microsoft 1.0 BASIC compiler.

IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 550 since 1983 ☐ Cost: $345

EXIM SERVICES OF N.A., INC.

☐ Formatted File Manager

DBMS. Generates customized screens, data bases and reports. Includes password protection, record selection using relational and Boolean logic operations, sorting, data reformatting, global editing, indexed, direct and/or sequential access, control of display attributes from user-written programs and multi-user support.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $295

EXOFT SOFTWARE SYSTEMS

☐ Squirrel

Information manager. Organizes data on multi-level tree network enabling user to browse network, go directly to data, search by key word or modify network.

IBM PC

EXPRESSWARE CORP.

☐ File Express

Information management program. Allows manipulation of small- and medium-sized data bases. Includes editor, sorting, label printing, report generator, import, export and cloning.

IBM PC ☐ 192 KB req. ☐ Copies sold: 30,000 since 1984 ☐ Cost: $40

FAIRCOM

SEE AD ON PAGE 317

☐ C-tree

File system for the C language. Provides multi-key ISAM routines and B+Tree functions. Works with single-user and network systems.

IBM PC ☐ Cost: $395

FASTWARE, INC.

☐ THOR, The Thought Organizer

Maintains text entries and called thoughts with built-in word processor. Establishes relationships between thoughts by user-defined categories. Retrieves thoughts by category, date of entry or matching text.

IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $295

MERVIN G. FAULKNER ASSOCIATES, LTD.

☐ Flextract Writer

Generates source code for information retrieval programs.

IBM PC ☐ 32 KB req. ☐ Copies sold: 50 since 1976 ☐ Cost: $1,200

FINCH, INC.

☐ File Minder

Window-oriented, file storage management. Tagging functions and mapping capabilities. Reads catalog files into data base systems. Protects files by setting DOS file attributes to make them read-only or hidden. Multiple display environments.

IBM PC, XT, AT ☐ 196 KB req. ☐ Cost: $70

FINDER INFORMATION TOOLS, INC.

☐ FINDERLink

Allows user to move electronic files from commercial mainframes or other microcomputer data base systems, word processor files or optical character scanners into Finder's text management system.

IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $300

☐ Retrieval Software

DBMS. Creates and searches inverted files capable of indexing every word in a data base. Features Boolean logic, truncation, sorting and flexible output. Retrieval speed is independent of data base size.

IBM PC ☐ 256 KB req. ☐ Copies sold: 600 since 1984 ☐ Cost: $1,500

THE FINOT GROUP

☐ KeepTrack

File management via visual picture of disk. User can copy, move, rename, view, and delete files and directories. Includes searching for files, sorting, and printing.

IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1985 ☐ Cost: $39

☐ KeepTrack Plus

File management via visual picture of disk. User can copy, move, rename, view and delete files and directories. Includes backup and restore, searching for files, sorting and printing.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $79

FOX & GELLER, INC.

☐ Quickindex for dBASE

High-speed indexer for user of dBASE II and III.

IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $149

FOX RESEARCH, INC.

(subsidiary of ComGen Technology)

☐ 10-BASE

Fourth generation data base language. Joins up to 16 files with an unlimited number of records per file. Provides a data dictionary, and bridge feature that allows user to interface to application programs such as Lotus 1-2-3 and WordStar. Includes a procedural language processor which allows user to custom design menu-driven applications. Offers batch processing and a basic interface.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost:

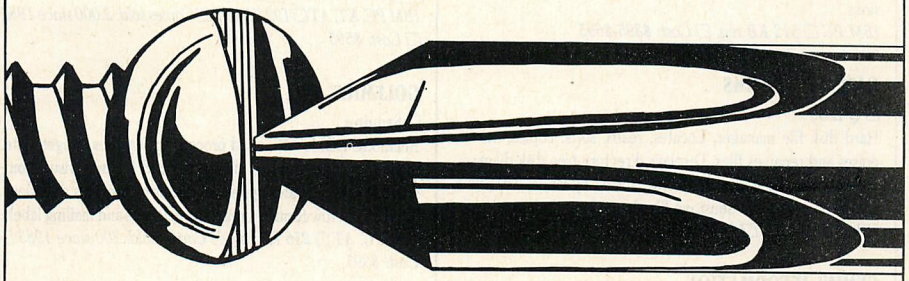
FOX SOFTWARE, INC.

☐ FoxBASE

Relational DBMS. Performs computational, file and index operations. Sorts data bases and permits up to 48 fields per record. Supports full type-ahead keyboard operations. Provides 14 digit precision. Uses 8087 math processor. Multi-user versions available. PCDOS network compatible.

IBM PC ☐ 256 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $395-$695

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r-tree: Multi-File Report Generator

r-tree builds on the power of **c-tree** to provide sophisticated, multi-line reports. Information spanning multiple files may be used for display purposes or to direct record selection. You can develop new reports or change existing reports without programming or recompiling and can use any text editor to create or modify **r-tree** report scripts including the complete report layout. At your option, end users may even modify the report scripts you provide.

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r-tree report scripts can define any number of virtual fields based on complex computational expressions involving application defined data objects and other virtual fields. In addition, **r-tree** automatically computes values based on the MAX, MIN, SUM, FRQ, or AVG of values spread over multiple records. **r-tree** even lets you nest these computational functions, causing files from different logical levels to be automatically traversed.

Unlike other report generators, **r-tree** allows you to distribute executable code capable of producing new reports or changing existing reports without royalty payments, provided the code is tied to an application. Your complete source code also includes the report script interpreter and compiler.

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Xenix is a registered trademark of Microsoft Corp. Unix is a registered trademark of AT&T.

CIRCLE NO. 310 ON READERS SERVICE CARD

☐ FoxBASE Plus
Compiler/interpreter relational DBMS. dBASE III Plus and PCDOS network compatible. Performs computational, file and index operations. Sorts data bases and permits 128 field per record. Supports full type-ahead keyboard operations. Provides 14 digit precision. Uses 8087 math processor. Multi-user versions.
IBM PC ☐ 512 KB req. ☐ Cost: $395-$695

GAZELLE SYSTEMS

☐ Q-DOS
Hard disk file manager. Locates, reads, sorts, copies, moves, erases and renames files. Displays directory tree disk diagram. Provides list of files in subdirectory sorted by name, extension, size or date. Protects sensitive files by making them read-only.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $70

GEMINI INFORMATION SYSTEMS, INC.

☐ DDQuery
DBMS including query subsystem for accessing data, report writer and transaction processor. High-level language included for design of CRT screens.
IBM PC ☐ 384 KB req. ☐ Copies sold: 300 since 1977 ☐ Cost: $3,750 and up

GENASYS CORP.

☐ TITLE III (Arranger)
Provides full screen definition for data collection. Data collection includes browse and search with update, search, sort, multi-key Boolean search through files and multi-key sort. Report format allows user definition of multiple reports per file.
IBM PC ☐ 128 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $650

GENERAL DATA SYSTEMS, LTD.

☐ Dx Data Dictionary
On-line and batch facilities define data, with optional input edits, storage formats and output edits. Supports multiple relations, screens, reports, tables or transactions. Handles descriptive reports, cross-reference and program-structured reference reports. Allows for portable applications and distribution control.
IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983

☐ Dx Host Language Interface
Allows Dx to interface with any language callable on mainframe or PC.
IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983

☐ Dx Relational Data Base
Run-time DBMS. Set of integrated tools for data base monitoring, data security, memory and performance control, audit, logging/reset, backup/recovery and maintenance of data base. Utilities available for restructuring, consistency audits and testing/debugging.
IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983

☐ Dx Transaction Generator
Non-procedural input/edit, update and reporting. User defines which data items belong to file or relations and chooses on-line or batch system or both. Non-procedural input edits include data base lookups. Subsystems run on micro, mini or mainframe. Security checking provided.
IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983

GENERAL PHYSICS CORP.

☐ J/T Pak
Job and task analysis system. Includes Task Editor, Name Editor, Job Survey Sheet Editor, Data Editor, Task Prioritizer, Element Editor, Skill and Knowledge Statement Editor/Printer/Cross-Referencer, Terminal Objectives Editor, Enabling Objectives Editor, and Terminal/Enabling Objectives Cross-Referencer.
IBM PC, AT ☐ 192 KB req.

GOLDATA COMPUTER SERVICES, INC.

☐ Goldatabase
DBMS. Features multiple keys per data base, multiple values per key, on-line updating of keys, multi-screens per data base. Single user and LAN environment.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $595

GOLEMICS, INC.

☐ Sequitur
Relational DBMS with word processing. Handles integer, date, money, decimal and text data types and features visual command syntax. Updates appear in results of previous selections. Tabular and row format. Creates form letters and mailing labels.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $395

GRID SYSTEM CORP.

☐ File
Provides horizontal and vertical scrolling. Allows sorting and nested sorting on up to six columns. Records and data items can be added or deleted at any time. Size of data base limited by amount of storage. Provides calculated data items such as totals, averages and variances.
IBM PC

GROUP L CORP.

☐ Textbank
Searches and manages structured/unstructured information. Handles text from ASCII and word processing files or communications link to another computer. Supports text from documents that have been sent out to service bureau for optical scanning. Search-only and LAN versions available.
IBM PC, XT, AT ☐ 640 KB req. ☐ Introduced: 1985 ☐ Cost: $995

GRYPHON SYSTEMS

☐ FAS-FILE
Index-card style data base. Organizes, stores and retrieves information by subject. Defines records containing up to 36 fields and 100 keywords for cross-referencing. Information is entered into data base using fill-in-the-form input.
IBM PC ☐ 256 KB req. ☐ Copies sold: 180 since 1983 ☐ Cost: $195

☐ PFAS (Pascal File Access Systems)
Initializes an index. Reads records randomly, sequentially or reverse sequentially by key and updates records by key. Supports variable length records by partial key; recovery of space when records are deleted; unlimited file size, record length and number of secondary indexes. Indexed file is a B+Tree.
IBM PC ☐ 7 KB req. ☐ Copies sold: 600 since 1981 ☐ Cost: $200-$245

GUARDIAN AUTOMATED SYSTEMS, INC.

☐ Unicorn/DB Database Management
DBMS. Permits up to 32,000 records per file and records with up to 512 bytes and 36 fields. Report Generator totals and subtotals numeric fields and sorts. Can be used for mailing lists, customer lists, inventories, directories and appointments.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 200 since 1980 ☐ Cost: $295

G & Z SYSTEMS, INC.

☐ Dataquick RDBMS
DBMS. Creates data entry screens and files and prints reports with multiple lookup, formatting and subtotals. Generates mailing labels and merges with word processors.
IBM AT ☐ 64 KB req. ☐ Copies sold: 150 since 1982 ☐ Cost: $495

HABA/ARRAYS

☐ UltraFile
DBMS with integrated file manager that can accommodate up to 32,000 records, 50 data items per record and 100 characters per data item. Performs calculations such as integer, square root, and logarithm on screen. Produces various graphs with up to five data items in various color combinations.
IBM PC, XT ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $195

HAI SOFTWARE, INC.

☐ HAI*LINE FILEKEEPER
Defines HAI*LINE file and record structures, including index files. Maintains files including create, amend, delete, display, print and load constants. Generates reports in dialogue mode. Available in foreign languages.
IBM PC ☐ 128 KB req. ☐ Copies sold: 5,000 since 1976 ☐ Cost: $195

HARRIS/LANIER

(formerly Lanier Business Products, Inc.)

☐ DataManager II
DBMS for accounting, legal and insurance professions. Performs information retrieval and reporting.
IBM PC ☐ 256 KB req. ☐ Copies sold: 15,000 since 1982 ☐ Cost: $1,200

HARRIS/3M DOCUMENT PRODUCTS, INC.

Facsimile Products Division

☐ File Saver
IBM PC, XT, AT ☐ Introduced: 1985 ☐ Cost: $3,000-$4,000

HAYES MICROCOMPUTER PRODUCTS, INC.

SEE AD ON PAGE 143

☐ Please
Sets screen and field characteristics. Data integrity insured by optional high/low values, skip fields and 3-level password protection. Manipulates up to 999 characters per field, 99 fields per record, 2,000 characters per record and several million records per data base.
IBM PC, AT, XT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $199

HENCO SOFTWARE, INC.

☐ INFO
Relational file management and fourth generation application development language. Dictionary, data entry/update with screen generator, data manipulation, interactive editing, ability to join ten files, programming, debugging and security.
IBM PC, XT, AT ☐ 160-750 KB req. ☐ Copies sold: 3,500 since 1975 ☐ Cost: $1,200

☐ PC INFO
Relational data base. Offers upload/download capability which accesses existing INFO applications, reports and files. Associates meaningful names with data files and their content.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $1,200

HIPPOPOTAMUS SOFTWARE, INC.

☐ 1985 Hippo Computer Almanac
Allows user to retrieve almanac-type data in English. Data base includes interest calculations, U.S. and international area codes and currency exchanges, time zone differences, metric conversions, capitol cities, populations, latitude and longitude, foreign word translations, calorie counts, toll-free 800 numbers, and astronomical information.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $35



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☐ **Business Adviser - Information Management Edition**
Creates data files to send and receive program information using DIF and ASCII files. Assembles custom reports from other Business Adviser modules. Supports data file design by field type or length or decimal point. Allows multi-factor data searches.
IBM PC, XT, AT ☐ 384 KB req. ☐ Cost: $525

☐ **Business Library Series-Information Retrieval**
IBM no. 6871-455.
IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $395

☐ **File Command**
Reviewed Nov/Dec 1983 p. 30.
IBM no. 6024-062.
IBM PC ☐ Cost: $35

☐ **Filing Assistant**
IBM no. 6024-145. DBMS. Handles information storage, organization and recall. Can be used to provide data to IBM Writing, Reporting, Graphing and Planning Assistant programs.
IBM PC, XT, Portable PC, PCjr ☐ 128 KB req. ☐ Cost: $165

☐ **Personal Decision Series - Data Edition**
IBM no. 6410-936; 6466-983. Provides integrated data management for Personal Decision Series. Utilizes data from other IBM PC computer programs, public data base services or IBM Business Management Series. Performs arithmetic calculations on file data and allows for five levels of subtotals on sorted data.
IBM PC, XT, 3270-PC, Portable PC, XT/370, AT, AT/370, PC Convertible ☐ 256-320 KB req. ☐ Cost: $275

☐ **RT PC SQL/RT (Structured Query Language/RT)**
IBM no. 5669-058. Relational DBMS. Tables for data manipulation. Query support for selection criteria, arithmetic expressions, nested queries and combining data from different tables. Report generation including sorting, calculations, subtotals, formatting and titles. Pop-down windows. SQL tables and views.
IBM RT PC ☐ Cost: $1,000

IBM PERSONALLY DEVELOPED SOFTWARE

☐ **DB/Editor/Writer**
IBM PDS no. 6276-554. Data entry, record maintenance, utility and report writing. Full-screen editor edits data and provides data entry. Selection function defines and locates data subsets. Output Writer formats reports. Designates up to 32 fields, sorts up to 16. Color EGA support.
IBM PC, XT, AT, Portable PC, PCjr ☐ 128 KB req. ☐ Cost: $50

☐ **INFOPC**
IBM PDS no. 6276-556. Stores and maintains multiple data bases in single file or separate files. Entries consist of title, index terms or keywords and text. Matches keywords on 100 entries using search function. Writes data base entries to DOS file. Includes record compression. Color EGA support.
IBM PC, XT, AT, Portable PC ☐ 256 KB req. ☐ Cost: $40

☐ **Personal Productivity Package**
IBM PDS no. 6276-581. Consists of DB/Editor Writer, INFOPC and Member Services.
IBM PC, XT, AT, Portable PC, 3270-PC ☐ 192 KB req. ☐ Cost: $75

IMSI

☐ **Bisybase**
Schedules time and organizes financial, background and communications data for business and personal contacts. Provides reports of financial position with United States and foreign accounts. Generates mailing lists.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $95

INCO, INC.

(subsidary of McDonnell Douglas Corp.)

☐ **SQL/UNIVERSE**
Relational DBMS which uses back-end processor. Interactive package for using SQL from on-line terminals, high-level language interface to allow custom application programs to access IDM-500 data base, report generator and facility for developing screen-formatted applications.
IBM PC ☐ 200 KB req. ☐ Copies sold: 8 since 1982

INFO-PROS, INC.

☐ **Info-Gen**
Multi-key record management system which generates menu-driven applications. Aids in defining application including data files, screens and reports. Provides descriptive prompts, help messages. Allows definition of up to 50 data fields per record including ten primary keys.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $245

INFOCOM, INC.

☐ **Cornerstone**
Relational DBMS with a built-in report writer. Can be used in conjunction with Lotus 1-2-3, WordStar and MailMerge. Runs under IBM's TopView, multi-tasking windowing software. Accepts input from dBase II and PFS systems.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $100

INFORMATION BUILDERS, INC.

☐ **PC/Focus**
Reviewed Nov 1985 p. 124.
Fourth-generation, nonprocedural DBMS. Includes report writer, window manager, graphics, financial modeling, statistical analysis, dialogue manager, screen manager, full-screen editor and host language interface. Supports transaction processing, forms design and micro-to-mainframe communications. Multi-user version available for LANs.
IBM PC, AT, XT, 3270-PC ☐ 512 KB req. ☐ Copies sold: 35,-000 since 1983 ☐ Cost: $798-$1,295 (single user); $4,000-$6,-000 (multi-user)

☐ **PC/HLI**
Host language interface. Supports creation and maintenance of PC/Focus data bases from programs coded in Assembly, C, FORTRAN and Pascal third-generation languages. Accesses PC/Focus data bases through calls from application programs. Includes retrieve, input, change and delete data calls.
IBM PC, XT, AT, 3270-PC ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $2,500

INFORMATION CONCEPTS, INC. (DC)

☐ **ULTIMATE**
File management. Includes screen-driven, system-generated prompts, user-designed screens, sort capability and mail merge option.
IBM PC ☐ 128 KB req. ☐ Copies sold: 12 since 1985 ☐ Cost: $70

INFORMATION DIMENSIONS, INC.

(a subsidiary of Battelle)

☐ **MicroBASIS**
PC version of Information Dimensions' BASIS data management system.
IBM PC, XT, AT

INFOSYSTEMS TECHNOLOGY, INC. (ITI)

☐ **Rubix**
DBMS. Features relational views, dated relations, relational editors, superior data types, compilable query language, multiple data base support and data base dictionary. Provides extensions to the relational model.
IBM PC ☐ 128 KB req. ☐ Copies sold: 3,000 since 1983 ☐ Cost: $975-$5,995

☐ **Rubix Master**
Integrates Rubix with visually-oriented user. Allows user access to all Rubix capabilities. Includes custom data entry format, logical record level concurrency, transaction logging, menu manager and report writer.
IBM PC ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $595 and up

INMAGIC, INC.

☐ **INMAGIC**
On-line information management and indexing with report generator for single- or multi-users. Features built-in Boolean query language and password security. Manages text and bibliographic records of variable length. Includes text editor and mathematical capabilities in report designer.
IBM PC, XT, AT ☐ 384 KB req. ☐ Introduced: 1980 ☐ Cost: $975

INNOVATIVE SOFTWARE, INC.

☐ **Smart Data Base Manager**
Relational DBMS. Allows 1,000,000 records per file and 255 fields per record, and 4,096 characters per record. Performs calculations and multiple file interactions within a file, between files and in report, and form generation. Includes communications and programming language.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 50,-000 since 1984 ☐ Cost: $495

☐ **Smart Data Base Manager LAN Multi-user Version**
DMBS for LANs. Includes communications, programming language, project processing, access to DOS without quitting, extended memory support. File and record locking. Reads and writes ASCII, DCA, Lotus and DIF files.
IBM PC, XT, AT, 3270-PC ☐ 320 KB req. ☐ Introduced: 1986 ☐ Cost: $995

☐ **T.I.M. IV**
DBMS. Organizes, files, retrieves, sorts, displays and prints information. Separate files can be viewed through multiple windows for data queries and updates. Includes B+tree organization, character and numerical range verification, projection processing through command files and security password entry at both screen and file levels.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 100,000 since 1979 ☐ Cost: $245

INSPIRATION SYSTEMS, INC.

☐ **Prevail - Data Base Management System**
Integrated forms-oriented data base definition facility, DBMS command language with query, and updating and reporting features. Supports relational and hierarchical data structures. Allows custom query-by-forms, update-by-forms and create-by-forms.
IBM PC, AT

INSTITUTE FOR SCIENTIFIC INFORMATION (ISI)

☐ **Sci-Mate Manager**
Information storage and retrieval. Maintains reprint file. Organizes research results. Tracks activities and projects. Generates reports and mailing labels. Integrates with ISI's Sci-Mate Searcher and Sci-Mate Editor.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $399

☐ **Sci-Mate Searcher**
On-line data base searching. Accesses BRS, Dialog, NLM, SDC, Orbit and Questel. Translates search terms and menu choices into specialized language of each host. Downloads data base records. Integrates with ISI's Sci-Mate Manager and Sci-Mate Editor.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $399

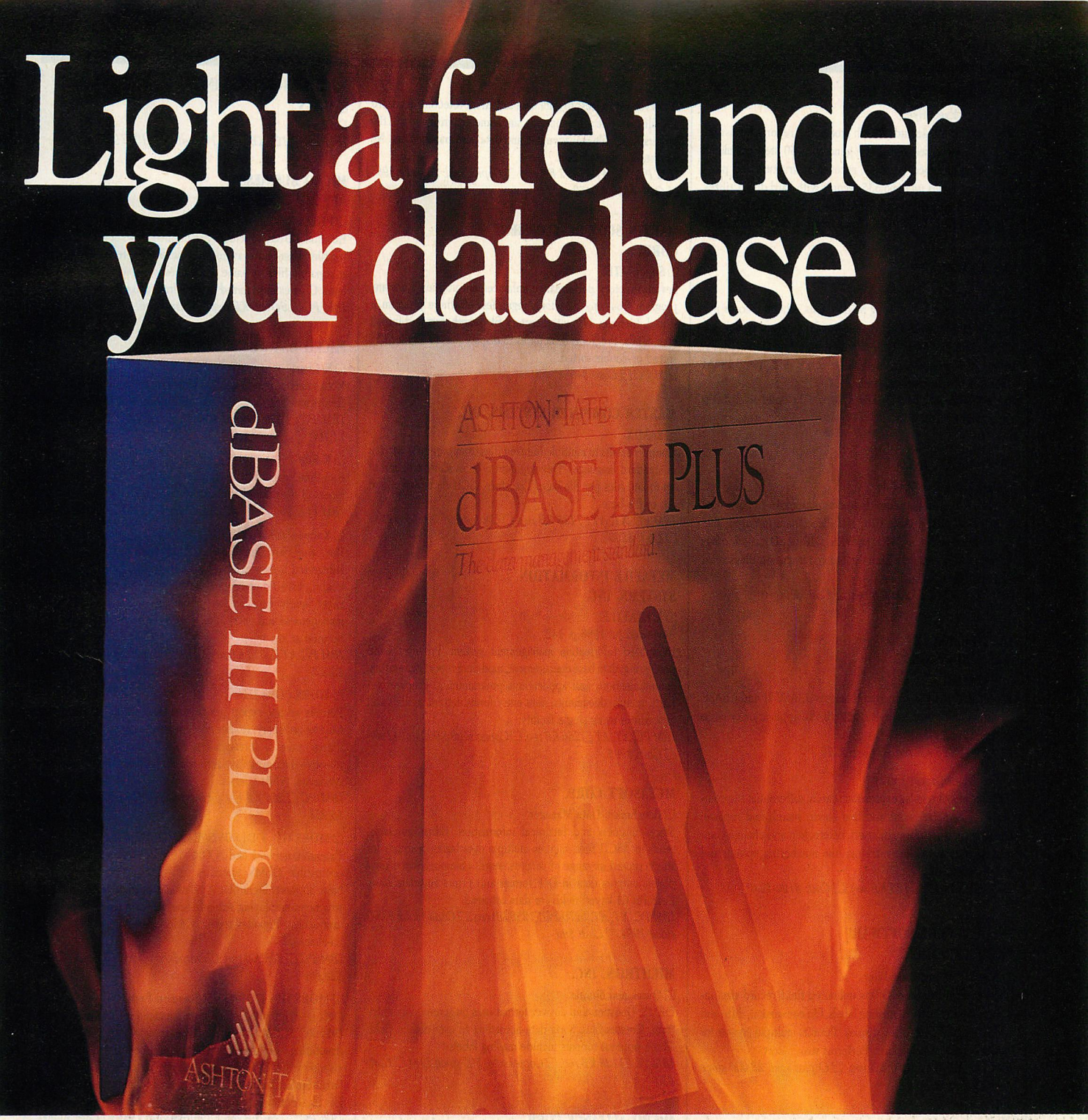
INTERNATIONAL TECHNOLOGY GROUP, INC.

☐ **FACTMATCHER**
Inverted file information retrieval system. Interfaces with IBM PCs and compatibles and with PC word processors. Synonym dictionaries, proximity searches, security.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 12 since 1978 ☐ Cost: $2,250

JASPIR INTERNATIONAL, INC.

☐ **PC-File 'N Report**
DBMS. Creates custom design screens for IC, payroll, mailing lists, AR, AP, invoicing, medical records, check book, memoirs, and archival information. Prints reports, labels, invoices and special forms. Handles up to 99,999 records.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $99

Light a fire under your database.



We've been carrying a torch for dBASE for years.

So we're pleased to announce Quicksilver,™ our totally new dBASE III Plus compiler.

Quicksilver produces native assembly code which runs dBASE applications like wildfire, faster than anything else on the market.

It also supports all the programming commands of dBASE III Plus, including multi-user syntax and memo fields. It includes a faster SORT and INDEX. And it uses the same data, index and other files as dBASE.

For greater flexibility, Quicksilver lets you create your own User-Defined Functions. It also supports "dBASE Tools For C," and lets you link in your own C code for complete control of your database applications. (Our own powerful HOT C™ compiler is available for just $99.)

With Quicksilver you can even create your own windowing environment, because we've added a full set of dBASE-like commands that give you up to 99 crisp, quick windows without any other software.

And Quicksilver speed, power and compatibility are all yours for just $599.

To order, call the WordTech Systems, Inc. HOTline at (415) 254-0900. But do it today. Because we all know that the race goes to the quick.

QUICKSILVER™
by WORDTECH

QUICKSILVER™ and HOT C™ WordTech Systems, Inc. Other products trademarked by others.
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CIRCLE NO. 343 ON READERS SERVICE CARD

JINI MICRO-SYSTEMS, INC.

☐ JINSAM Executive

Multi-user DBMS. Includes batch processing, reports, forms and label generators, sequential file generator, 50 step calculator with global and local registers, recover, restructure and password entry. Holds up to 65,535 records with hard disk. Utilizes hard disk, floppy disk or multiple disk units at same time.

IBM PC ☐ 32-128 KB req. ☐ Introduced: 1982 ☐ Cost: $495

THE KEY BOARD

☐ Data Base

Data base management using relative files, 32,000 records per file, 4K record size, 100 fields, sequential file interface, multiple logical field queries, screen editor and indexing. Generates reports and mailing labels. Mailmerge, forms design and ISAM record retrieval programs available.

IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 5,000 since 1982 ☐ Cost: $50

LANG-ALLAN, INC.

☐ Data Extraction Module

Extracts captured data files on line-by-line basis. Imports data into Lotus 1-2-3, dBASE II or III. Places data in output file. Formats output file as WRK or WKS. DIF or SDF file formats available. Captures data from remote systems using Bluestreak. Can operate as standalone.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $150

LATTICE, INC.

SEE AD ON PAGE 279

☐ dBC II, III

Toolkit that allows C program to access dBASE II and dBASE III files. Can be used to extend any dBASE application or write an application.

IBM PC ☐ 128 KB req. ☐ Cost: $250

☐ Text Management Utility

Includes global regular expression search; differential file comparator; character, word and line count; search and replace; block move/copy; append, insert, delete, join and change commands; read/write; line marking; line numbering option; and global command.

IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $120-$240

LEADING EDGE SOFTWARE PRODUCTS, INC.

☐ Nutshell Information Filer

Menu-driven data base. Offers unlimited field/record size, indexing, data validation, mailing labels, file conversion, ditto and undo. User-defined screen display. Permits multiple layouts for viewing/generating reports. Performs search/sort.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 28,000 since 1984 ☐ Cost: $150

MARTIN MARIETTA DATA SYSTEMS

(operating company of Martin Marietta Corp.)

☐ AskIT

Data base manager front end. Interfaces to KeepIT. Allows user to request reports, perform calculations, run cataloged procedures, display records and query data base. Retrieves information from data base by selecting options from pop-up menus.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $100

☐ KeepIT

Relational data base management program. Functions as central core of the ITSeries. Integrates with other PC software. Command files, indexing, interface to mainframe files, sorting, and customized data entry screen.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 8,250 since 1983 ☐ Cost: $450

☐ ShareIT

Allows shared access to data base in LAN. Protection of record and file lock. File server options, simultaneous writing to two file servers, index file management, and data base management. No workstation degradation.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $850-$1,450

MARTIN SCOT DEVELOPMENT CORP.

☐ SuperPATH

Seven directory performance enhancement utilities. Runs any program from any directory, regardless of where program is stored. Includes 17 multi-directory file search, sort and format commands. Programs directories to display files in any format, sorted or double sorted.

IBM PC ☐ Cost: $40

MASTER COMPUTER SYSTEMS, INC.

☐ SAMIX

Controls access to multiple indexed files from programs written in standard languages. Development utilities allow creation of up to 240 files per file base. Transfers ASCII data files in and out of file base.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $295

METAFILE INFORMATION SYSTEMS, INC.

☐ METAFILE

Reviewed Jul 1986 p. 142.

Integrated information management system. Provides word processing, data base management, modeling report generation, communications and applications programming. Prepares reports, menus, documents, data entry forms, letters, models and procedures using single facility.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 5,000 since 1980 ☐ Cost: $995

METASOFT CORP.

☐ Benchmark Data Manager

Stores business and technical information. Edits templates, reads in ASCII files, merges multiple data bases, searches for single record or range of records, stores commonly used templates, outputs data in DIF format and prints any data base. Features 64 keyed fields for data retrieval.

IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 9,000 since 1984 ☐ Cost: $99

MICHTRON, INC.

☐ Quick and Simple

DBMS. Question and answer format uses on-screen data entry form. Creates files. Sorts data according to user-chosen field. Three printout formats include mailing labels.

IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $50

MICRO ALLIANCE CORP.

☐ Search

Locates any or all files in every drive and subdirectory that pertain to a certain subject or person. Allows 16 selected criteria words at a time. Counts number of occurrences of selected word in file and can ignore lower and upper case.

IBM PC ☐ 48 KB req. ☐ Introduced: 1983 ☐ Cost: $49

MICRO-AP

☐ Selector V

Relational hierarchical/applications management system. Utilizes two report generators and creates columnized and formatted reports, single and multi-paged invoices and labels from up to six data files. User-designed screens handle data entry, range testing, multi-file verification and on-line query.

IBM PC ☐ 52 KB req. ☐ Copies sold: 16,000 since 1981 ☐ Cost: $450

MICRO ARCHITECT, INC.

☐ IDM-X

DBMS.

IBM PC ☐ 128 KB req. ☐ Introduced: 1982 ☐ Cost: $49

MICRO BUSINESS APPLICATIONS, INC.

☐ PHD - Relational Data Base

Relational DBMS. Includes pre-defined views of MBA accounting files. User may draw forms on screen and relate information in separate files by name. Calculates totals, subtotals and averages. Creates customized reports from MBA Accounting files.

IBM PC ☐ 64-128 KB req. ☐ Introduced: 1984 ☐ Cost: $495

MICRO DATA BASE SYSTEMS, INC.

☐ K-Chart

Vocabulary of more than 500 words for requesting information from KnowledgeMan/2. User can supplement word list.

IBM PC ☐ 320 KB req. ☐ Introduced: 1986 ☐ Cost: $295-$1,100

☐ K-Run

Run-time versions of KnowledgeMan/2 and options for developers of distributed application systems.

IBM PC ☐ 320 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ KnowledgeMan/2

Reviewed Nov/Dec 1983 p. 72; Jun 1986 p. 156.

Integrated system with menus and on-line help. Security includes password checking, read/write access controls, spreadsheet, query language, programming, math, statistics, forms management and encryption. Unlimited number of tables may be used at any time.

IBM PC, AT ☐ 320 KB req. ☐ Introduced: 1983 ☐ Cost: $595-$3,325

☐ MDBS - QRS III

Permits ad hoc report generation from MDBS III data base. Customizes query. Routes query report to console, printer, disk file or inputs to spreadsheets. Permits conditional clauses for selective data retrieval. Defines data base entities by titles and synonyms. Nests queries.

IBM PC ☐ 256 KB req. ☐ Introduced: 1981 ☐ Cost: $1,575-$5,955

☐ MDBS III - DDL/DMS: Full RTL Form

Extended network and 3COM-, IBM PC-, Nestar- and Novell-compatible DBMS. Specifies structure and contents of data base. Supports hierarchical, relational and CODASYL network structures employing extended-network design with multiple user access. Provides recovery and transaction logging (RTL) mechanisms.

IBM PC ☐ 256 KB req. ☐ Introduced: 1981 ☐ Cost: $7,025-$28,600

☐ MDBS III - DDL/DMS: Standard Form

Data description language/data management compatible with IBM PC 3COM, Novell and Nestar networks. Supports data structuring, performance control and security features furnished by Full RTL form but does not perform RTL processing. Furnishes buffer flushing facility for reducing chance of data loss in event of interruption.

IBM PC ☐ 256 KB req. ☐ Introduced: 1981 ☐ Cost: $3,900-$15,900

☐ MDBS III - IDML (Interactive Data Manipulation Language)

Creates and accesses MDBS III data bases. Supports all statements of DML allowing each to be interactively executed one at a time. Defines macro commands. Supports learning and testing of DML logic.

IBM PC ☐ 256 KB req. ☐ Introduced: 1982 ☐ Cost: $1,550-$4,760

☐ MDBS III-RDL

Report definition language. Specifies characteristics of a report and the prompting behavior of a program. Handles sorting, control breaks, formatting and computation.

IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $1,950-$3,970

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MEDIA INTELLIGENCE



MICROFORMS TRANS-LINGUAL

☐ D*CAR*E (Documents Captured and Retrieved Easily)
Provides retrieval for use with paper files, microforms, floppy disks and optical disks. Can be installed on mainframes, micros or minis computers that use a hard disk.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 10 since 1984

MICRORIM

☐ MicroRIM
Relational DBMS with commands for file manipulation and comparison, full screen entry/edit module, query capability and report writer. Host language interface accesses a data base using a high level language, and reduces system development time.
IBM PC ☐ 52 KB req. ☐ Copies sold: 1,000 since 1982 ☐ Cost: $595

☐ R:base CLOUT
Natural language inquiry option for R:base Series of relational DBMS. Permits data base to be questioned in free-form English words and phrases without concern for syntax or data base structure. Retrieves information from up to five files in data base in single request.
IBM PC ☐ 256 KB req. ☐ Cost: $249

☐ R:base Series 2000
Relational DBMS. Includes prompted commands, tutorial instruction, and help commands. Retrieves rows of data, sorts and displays desired attributes from these rows with column headings. Calculates column totals. Specifies display column widths for word wrap on text fields.
IBM PC ☐ 128 KB req.

☐ R:base Series 4000
Relational DBMS. Updates multiple files concurrently, accessing up to 40 files at same time and sorting and qualifying data by ten attributes or criteria concurrently. Selectively retrieves certain rows of data, calculates column totals and specifies display column widths for word wrap on text fields.
IBM PC, XT ☐ 64-256 KB req. ☐ Cost: $495

☐ R:base Series 5000
Reviewed Sep 1985 p. 82.
DBMS allowing application development using automated screen, menu builders, date entry forms and reports, and prewritten commands. Programming tools include procedural language, custom macros, report writer and compiler. Transfers data from Lotus 1-2-3, PFS:File, dBASE II and DIF, SYLK and ASCII files.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $700

☐ R:base Series 6000
Multi-user capabilities. Password security restricts ability to read and/or modify data at relation level or for entire data base. Operations restricted on basis of shared vs. exclusive access to assure data base integrity. Automatic relation level locking and queuing occur during sorting or modification functions.
IBM PC ☐ 256 KB req.

☐ R:base System V
Relational DBMS with networking capabilities and application generator. Allows unlimited workstations. Includes Definition Express for data base structures creation, Forms Express and Reports Express. Compatible with IBM's PC, 3Com's 3+, Novell's Advanced Netware 86/E and 86/PCN and Microsoft's networks and Ungermann-Bass Personal Connection.
IBM PC ☐ Cost: $700

MICROSOFTWARE INTERNATIONAL, INC.

☐ CBS Easy Base II
Consists of Data Base Builder/Manager and Report Generator. Report generator lets user print or display data in tabulated formats with column headings, subtotals and totals. Data Base Builder/Manager allows up to 108 fields per record. Mini-calculator displayed on screen during input.
IBM PC, AT, XT ☐ 128 KB req. ☐ Copies sold: 2,200 since 1984 ☐ Cost: $695

MICROSTUF, INC.

☐ Infoscope
Accesses up to 8 files simultaneously. Sorts information, re-arranges it into any category, focuses on specific sub-categories and compares segments of information side by side. Creates 12 scopes or windows on one screen, each containing different grouping of information that can be scrolled within scope.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1984 ☐ Cost: $79

MINOLTA CORP.

☐ MinCAR
Computer-assisted micro image retrieval system. Provides document tracking, ad hoc reporting, multi-level search capability, Boolean logic and multi-level security access to files and functions. Uses data in existing files to create index.
IBM XT, AT

MIRACLE COMPUTING

☐ Eazyfile
Sets up categories for data and stored text. Searches for any word/phrase combination across all categories and display/print results.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 55 since 1982 ☐ Cost: $35

MONROE SYSTEMS FOR BUSINESS

☐ Condor
Relational DBMS with customizable report writing. Includes English-like commands. Features computations using basic arithmetic operators, decisions using relational operators and data computations. Sorts data using a maximum of 32 data item keys.
IBM PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $295-$650

MONTEREY COMPUTER CONSULTING

☐ DBRescue
Recovers a compromised dBASE II data base file. Dumps to ASCII file, regardless of number of records in file.
IBM PC ☐ 64 KB req. ☐ Copies sold: 250 since 1982 ☐ Cost: $100

☐ Scrunch
Condenses dBASE code into its briefest form. Allows dBASE II programs to be written with comments, documentation of revisions, spacing and indentation. Detects syntax errors before a program is run. Programs are written with the file extension SRC changed into CMD files. Checks for misspelled commands, unmatched quotes and unbalanced parenthesis.
IBM PC ☐ 64 KB req. ☐ Copies sold: 245 since 1982 ☐ Cost: $100

MORGAN COMPUTING CO., INC.

☐ Formula IV
Relational data base applications generator. Multi-user. Provides 150 help screens and query language. Accesses up to 99 million records with up to 200 fields per record. Built-in dual-window text editor can relationally access up to 12 files.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $695

MOSAIC SOFTWARE, INC.

☐ Twin
Spreadsheets in 15 types of business presentations. Sparse matrix management.
IBM PC, XT, AT, 3270-PC ☐ Cost: $99

NEW HAMPSHIRE SOFTWARE, INC.

☐ Curator
Creates, maintains and displays any collection of data consisting of uniform fixed-length items. Includes stamp collections, membership lists, recording collections and parts lists. Features up to 80 characters/field, 128 fields/collection and reference keying on any field.
IBM PC ☐ Cost: $85

OCELOT COMPUTER SERVICES, INC.

☐ Database Management System
Accesses up to 25 files and up to 16 million records, each up to 2,048 characters long. Provides variable field/record storage, multi-key indexing, retrieval with and/or/and not/parentheses, relational-style joins and projects or network-style set navigation.
IBM PC ☐ 128 KB req. ☐ Copies sold: 400 since 1981 ☐ Cost: $300

☐ Relational Database Program
24 commands are available for defining new data bases, retrieving, sorting, reporting, single- or multiple-record updating, joining and projecting. Compatible with Ocelot's DBMS.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $150

O'HANLON COMPUTER SYSTEMS

☐ Database Solution
Fourth generation procedural programming language with data base management facilities. Features multi-level file structure, soft file relationships, arithmetical operations, conditional logic, help and error messages and record-locking for multi-user systems. Includes data dictionary, screen painter and report generator.
IBM PC ☐ 64 KB req. ☐ Copies sold: 10,000 since 1982 ☐ Cost: $695-$995

O'NEILL SOFTWARE

☐ Electra-Find
Finds and collects information from multiple text files. Allows Boolean, wildcard, phonetic, and standard searches. Retrieves sentences, paragraphs, fixed-length records or any size blocks of text. Saves retrieved material including each item's file name and location.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $65

OPEN SYSTEMS, INC.

(subsidiary of Uccel Corp.)

☐ Harmony Information Manager
Available as standalone DBMS or as part of Harmony Integrated Business Software Series. File lookup and verification. User-created menus for data entry, reports, labels, batch updates or links to other menus. Three levels of sorts.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $595

ORACLE CORP.

☐ Oracle
Relational DBMS. Statements entered through terminal interface or embedded in programming languages through host language interface. Creates screen-oriented processing. Includes data compression, compressed indexes, data clustering and virtual buffer paging. Options include fourth generation language and DSS.
IBM PC, XT, AT, RT PC/AIX ☐ 512 KB req. ☐ Copies sold: 4,000 since 1979 ☐ Cost: $600-$2,000

☐ Pro*SQL
General-purpose call interface to SQL/RT. Accesses SQL/RT data using set of programming calls from various languages.
IBM RT PC ☐ Introduced: 1986 ☐ Cost: $600

☐ SQL*Plus
Fourth generation language interactive command utility for ad hoc data access and report writing.
IBM PC

PANSOPHIC SYSTEMS, INC.

☐ Easytrieve Plus.PC
Information retrieval system. Supports forms creation for data entry, data base and editor for entering/correcting jobs. Reads Lotus and ASCII files. Includes report-writing capabilities. User can browse, add, delete or update records.
IBM PC, XT, AT ☐ 256 KB req.

PAPERBACK SOFTWARE INTERNATIONAL

☐ Executive Filer
Files and indexes text, graphics and spreadsheets. Retrieves related information by selecting combinations of keywords. Each item can store over 8,000 characters of text. Each item can be indexed by 1-10 14-character keyboards. Stores over 64,000 items.
IBM PC, PCjr, XT, AT ☐ 192 KB req. ☐ Copies sold: 3,000 since 1985 ☐ Cost: $50

☐ VP-Info
High-speed DBMS. Supports 256 fields and 8 KB per record. Accesses 6 data base files and 7 index files simultaneously. Reads/writes dBASE II and III files. LAN support. Supports 8087 co-processor. Communications port I/O.
IBM PC, XT, AT ☐ Cost: $100

PASCAL SYSTEMS, INC.

☐ TDM (The Data Machine)
Pascal DBMS for large data bases. Provides file maintenance and reporting from large data bases, including files resident on hard disk systems. Exchanges files with other systems. Each data base handles 32,767 records and supports related data bases. Report procedures may include if-then-else and gosub statements.
IBM PC, XT ☐ 64-256 KB req. ☐ Copies sold: 1,000 since 1980 ☐ Cost: $295

PC MANAGER, INC.

☐ PC Manager
Relational DBMS and fourth generation application builder. Report generation. Automated field validation. Lets user create or compute data element for display or reporting without having to store it on disk.
IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $595

P. C. STAT, INC.

☐ N-DBMS Numeric Data Base Management System
Includes facilities to transfer data between this system and most spreadsheets, data bases and text editors. Major sections include design data base, design entry screens, data entry, sorting, query, report generation, data exchanges, and graphics.
IBM PC, XT, PCjr ☐ 128 KB req. ☐ Cost: $350

PEACHTREE SOFTWARE, INC.

(an Intelligent Systems Co.)

☐ PDQ (Peachtree Data Query)
Accesses data stored in Business Accounting System or Back to Basic files. Displays data on screen, graphs data in line/bar charts or transfers to spreadsheets or data base managers. Prints formatted and custom reports, graphs or extracted data files. Maintains accounting files integrity.
IBM PC ☐ Cost: $395

PEARLSOFT, INC.

☐ Personal Pearl
Relational DBMS and program generator. Designs forms or reports, enters data and prints reports. Performs calculations and interfaces with WordStar and SuperCalc. Features keyword and wild card in 256 KB version.
IBM PC ☐ 52-256 KB req. ☐ Copies sold: 140,000 since 1982 ☐ Cost: $295

PECAN SOFTWARE SYSTEMS, INC.

☐ KSAM (Keyed Sequential Access Method)
Writes applications such as IC and accounting programs. Accesses files dynamically, intermixing sequential and random operations. Records identified by a user-defined data field. Operations include add, close, create, delete, erase, load, open, read current, read random and update.
IBM PC, XT, PCjr, AT ☐ 64 KB req. ☐ Introduced: 1981 ☐ Cost: $60

☐ Swan's Relational Database
IBM PC, XT, AT ☐ Cost: $60

PERSONAL COMPUTER SUPPORT GROUP, INC.

☐ Data+
File manager with input screens and output formats including merging. Accepts data from user-defined 16-field screen. Prints mailing address labels or lists of any records or selected fields of records in columns or other configurations.
IBM PC ☐ 24 KB req. ☐ Introduced: 1983 ☐ Cost: $60

PHACT ASSOCIATES, INC.

☐ PHACT-dbrm
Accesses and manipulates records by relative or ISAM and is available as library of C programming language functions. Describes data bases in data dictionary which is compiled into data base and creates C header file. Supports char, short, long, quad and double data types.
IBM PC ☐ Copies sold: 2,000 since 1983 ☐ Cost: $295-$950

THE POISE CO., INC.

☐ DMS-Plus and DMS-Micro
Includes file maintenance, report generator, word processing, label program, text editing, list processing, on-line inquiry, information retrieval and user-defined screen formatting.
IBM PC, XT, AT ☐ 64-2,000 KB req. ☐ Copies sold: 300 since 1977 ☐ Cost: $495

POLYTRON CORP.

SEE AD ON PAGES 348/382

☐ PolyWindows Archivist
Memory-resident document storage and retrieval utility. Compresses data and stores files on hard or floppy disk in single archive volume. Retrieves data by keyboard, date, file name, or longer descriptive name. Requires PolyWindows DeskPlus.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $49

☐ VMFM (Virtual Memory File Manager)
Virtual file access and buffering for text and binary files with buffer-to-disk swapping. Handles data structures larger than memory allows. Includes subroutines which can link with user's application code to provide random access file buffering.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1986 ☐ Cost: $99-$2,500

POSTLEY SOFTWARE, INC.

☐ DBS/Experience
DBMS and reporting system. Develops prototype systems. Collects, updates, retrieves, organizes, manages, processes and analyzes data. Performs computations on stored data. Mailing label printing. Custom data entry screens, output display screens and printed output.
IBM PC, XT, AT, Convertible ☐ 96 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $195

POWERBASE SYSTEMS, INC.

(division of Compuware Corp.)

☐ PowerBase
Accesses data in related files. Exchanges data with spreadsheets, word processors, other data bases, mainframes and online information systems. Supports multifile/sort report writer, file redefinition, global update, search, command mode, labels, quicklist, lookup, table validation, password protection and international characters.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 30,000 since 1983 ☐ Cost: $349

PRACTICORP INTERNATIONAL, INC.

☐ PractiBase
Relational DBMS. Handles up to 2,000 characters per record and 254 characters per field. Providing file compatibility with PractiCorp's PractiWord and PractiCalc III. Reads and converts dBase II files and runs existing dBase II programs. Includes programming language and report generator.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $100

PRIME COMPUTER, INC.

☐ Information/pc
Relational DBMS. Includes English-like nonprocedural query and report language, interactive data definition and defaulted data entry screens based on dictionary. Allows application prototyping. Multi-valued fields and associations. Concatenated, conditional, computed, other-file-related and programmable fields. Phonetic search capabilities in query language.
IBM PC, XT, AT ☐ Introduced: 1986 ☐ Cost: $895

PRO/TEM SOFTWARE, INC.

☐ Notebook II
DBMS for research notes and bibliographies, with text editing and word wrap. Manages up to 28,000 characters in 50 fields and ten pages of text per record. Reads files from word processors, public data bases, and other DBMS. Accepts and controls extended characters.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 7,000 since 1985 ☐ Cost: $189

PROBASE GROUP, INC.

☐ Probase
Relational DBMS. Handles full or partial accounting systems, IC customer files, payroll, checkbook balancing and check writing, scheduling, mailing label production, portfolio management and personnel records. Capable of handling up to 65,536 records per file, each record a maximum of 1,024 bytes.
IBM PC ☐ 64 KB req.

PRODATA, INC.

☐ Easyscreen/PC
Draws screen layouts to process data in full screen or block mode. Includes multiple data types, screen attributes, screen overlays, simple windowing and screen processing interrupts. Custom designed screens may be included in BASIC programs or can be used with the data base program.
IBM PC ☐ 64 KB req. ☐ Copies sold: 65 since 1982 ☐ Cost: $190

☐ KSAM/PC
Provides keyed or indexed file access from Microsoft BASIC. Allows partial or generic key lookup, duplicate keys and multiple key files. Includes multiple access levels for file security. Key can be up to 249 bytes and data records can be up to 32 KB. File commands include open, close, read by key and read next record.
IBM PC ☐ 64 KB req. ☐ Copies sold: 200 since 1982 ☐ Cost: $90

PROGRAMMED INTELLIGENCE CORP.

☐ IQ (Intelligent Query)
Lotus 1-2-3 and dBASE II/III compatible integrated reasoning-based query, report writing and graphics system. Arithmetic, selection, sorting, batch reporting and conditional functions. Merges information from numerous files, sorts, totals and subtotals. Performs graphic analysis of data.
IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $150-$500

QAX INTERNATIONAL SYSTEMS CORP.

☐ **Page*One**
Capable of adding integration type features to existing applications. Uses pre-existing data files. A single command and a key accesses information in readable format. Available as standalone or with Super Spreading spreadsheet, 3*16 word processor, inquiry action express.
IBM PC, XT, AT ☐ 64 KB req. ☐ Cost: $395

QINT DATABASE SYSTEMS CORP.

☐ **NIAM (Nijssen's Information Analysis Methodology)**
Enterprise modeling. Analyzes end user needs prior to design phase of data bases. Assures accurate representation of information meaning.
IBM PC, XT, AT

☐ **SQL**
Relational DBMS. Compatible with IBM's SQL for mainframes. Includes integrated application development tool, graphics capabilities and data conversion utility. Allows micro-based prototypes of mainframe.
IBM PC ☐ 512 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $995

☐ **TINA (Tool for Information Analysis)**
Provides information analysis. Generates normalized data bases. Data dictionary. Expert system handles modeling process. Handles large numbers of conceptual schemas. Includes command language to manipulate data base. Defines scope of schema. Generates overall, selective and statistical reports.
IBM PC ☐ 300 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $3,000

QSR SERVICE CORP.

☐ **MAKPROG**
DBMS. Generates UX-BASIC (OASIS) structured source code for relational and hierarchical file structures. Features an interactive screen generator to paint data capture screen formats, arbitrary subroutine processing on any field and English language query with QRPT report generator on all files. Menu generator. Word processing interface.
IBM PC, XT, AT ☐ 44 KB req. ☐ Copies sold: 5 since 1982 ☐ Cost: $600-$1,200

QUADRAM

(subsidiary of Intelligent Systems Corp.)

☐ **Data Base Manager**
Creates and modifies a large data base of over 32,000 records. Produces form letters and prepares and maintains a mailing list. Can be reconfigured, altering and adding to its form. Contains global search and replace. Performs up to 18 mathematical and statistical calculations. Integrates with WordStar, Lotus 1-2-3, MultiPlan and VisiCalc.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 20,000 since 1984 ☐ Cost: $199

☐ **Key II, Data Management for 1-2-3**
Changes Lotus 1-2-3 data without having to use Lotus commands. Adds, deletes, edits, views and sorts data. Prints reports in various preset forms from Lotus 1-2-3 data. Searches data base and extracts information to meet specified conditions. Performs mathematical and statistical operations on numeric fields.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $99

☐ **4-1-1, The Retrieval System**
Maintains a data base of every word in every document. User can specify one word or several words which are contained in document and program will locate file. File encryption provided. Organizes back-up floppy disk according to subject matter or data.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $149

QUADRATRON SYSTEMS, INC.

☐ **Q-File**
Text management, search and retrieval. Reviews information from multiple data bases and across networks. Performs wild card, combined and Boolean searches. Works with foreign languages and multi-font text.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $495-$695

☐ **Q-Phact**
Business environment data base system. Includes data dictionary and variable length records. Extracts keys from records. Supports data base/record locking. Password protection. Provides report/forms generators and query language capability. Accesses records by relative position or key sequence. Checks for duplicate records.
IBM PC ☐ 196 KB req.

QUICKVIEW SYSTEMS

☐ **Zoomracks**
Integrated project organizer, data base, card file and word processor based on electronic rack concept. User can define, view and manipulate many fields, cards and racks simultaneously. Handles 27 fields per card, 10,000 cards per rack. Resides in memory.
IBM PC, XT, AT ☐ 256 KB req.

RAF SOFTWARE, INC.

☐ **Rank and File I**
Maintains information of clients, customers, employees, inventory, billing, mailing lists and personal finances. Searches on any combination of fields or by browsing forward and backward. Reports detail titles, comments, fields, running totals, page totals, grand totals and computed fields directly on the screen.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 4,000 since 1983 ☐ Cost: $195

RAIMA CORP.

SEE AD ON PAGE 327

☐ **db—VISTA**
Network model DBMS consisting of a data definition language processor and a library of C functions. Multi-user capability, translation processing, dBASE II/III, R:base and ASCII file transfer. Data base consistency check and data field alignment check utilities.
IBM PC ☐ 128 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $195-$990

RAPID SYSTEMS

☐ **Data Recording**
Includes direct data acquisition to disk, selectable data paths, strip chart recorder and selectable sample rates to 1,000 seconds per sample.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $99

☐ **Lotus 1-2-3/dBASE III Interface**
Transfers Rapid Systems' data format into Lotus 1-2-3 or dBASE III.
IBM PC, XT, AT ☐ 64 KB req. ☐ Cost: $49

THE RAPPORT CORP.

☐ **Rapport**
Relational DBMS. Includes facilities for backup/recovery, password access, concurrent update protection, interactive development environment. Screen data entry and SQL interface.
IBM PC, XT ☐ 500 KB req. ☐ Copies sold: 250 since 1979

REAL-TIME COMPUTER SCIENCE CORP. (RTCS)

☐ **Data Base Manager**
Uses ISAM. Accesses records by 32 bit (dword) key valve stored in index. Integrates with application programs under PC/RTX, AT/RTX and iRMX86 OS. Works with The PL/M Connection.
IBM PC ☐ 256 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $495

REALTY MICROSYSTEMS, INC.

☐ **Profiler**
Allows 80 fields and 2,000 characters per record. I/O formats can be drawn on screen with keyboard. Sorts up to nine fields per file and searches 80 fields. Reports hold up to nine records horizontally and 99 vertically per page. Permits 999 lines per page with 255 characters per line.
IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $795

REFERENCE TECHNOLOGY, INC.

☐ **Clasix STA/F Text**
Retrieves text from data bases stored on read-only optical disks. Performs free-text or structured searches. Searches using Boolean operators to find documents containing selected words, phrases or word prefixes. Interfaces with Clasix STA/F File.
IBM PC, XT, AT ☐ 384 KB req. ☐ Introduced: 1985

RELATIONAL DATABASE SYSTEMS, INC.

☐ **C-ISAM**
B-tree based. Library of C functions. Creates/manipulates indexed file systems. Standard access method for UNIX. Provides retrieval, storage and protection.
IBM PC, XT, AT ☐ 28 KB req. ☐ Copies sold: 125,000 since 1981 ☐ Cost: $225

☐ **File-it**
Provides interactive file creation and context sensitive help facilities. Maintains, modifies, adds to and retrieves information. Interactive operating environment simplifies file creation, data entry and query-by-forms procedures. File and command compatibility with RDS' INFORMIX-SQL.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 76,000 since 1984 ☐ Cost: $295

☐ **Informix-SQL**
Reviewed Dec 1985 p. 118.
Relational DBMS based on industry-standard SQL. Creates and maintains data bases. Designs custom screens and menus. Produces custom-formatted reports.
IBM PC ☐ 512 KB req. ☐ Copies sold: 76,000 since 1985 ☐ Cost: $795 and up

RELATIONAL TECHNOLOGY, INC.

☐ **Ingres Relational Database Management System Release 5.0**
Relational DBMS. Includes interactive SQL terminal monitor and integrated data dictionary. Manipulates data via forms-based visual programming tools, 4GL language or embedded 4GL commands within traditional languages.
IBM PC, RT ☐ 512 KB req. ☐ Copies sold: 3,000 since 1981 ☐ Cost: $1,000 (micro); $3,000-$140,000 (mini, mainframe)

☐ **Ingres/ESQL**
Host language interface. Preprocessor translates embedded SQL commands to host language including Ada, BASIC, C, COBOL, FORTRAN, Pascal and PL/1. Prototypes data management portions of applications interactively. Converts data. Handles variables. Controls forms. Integrates with Ingres/Applications.
IBM PC, RT ☐ 512 KB req. ☐ Copies sold: 3,000 since 1981

RETRIEVAL TECHNOLOGY CORP.

☐ **Para-Tools**
Enhancement for Ansa Software's Paradox DBMS. Includes browsing, labeling, and menu creating. Provides over 30 add-on scripts, forms and tables.
IBM PC, XT, AT ☐ Cost: $75

ROCKY MOUNTAIN SOFTWARE SYSTEMS

☐ **MAG/base**
Three upward compatible levels include personal filing system, multifile information management and advanced application development system.
IBM PC ☐ Copies sold: 8,000 since 1981 ☐ Cost: $495-$795

☐ **MAG/base 2**
DBMS and report writer. Calculates at detail, subtotal and grand total time. Bases record selections on any combination of field, calculation and constant comparisons using Boolean logic. Sorts up to 10 record fields in ascending, descending or user-defined order.
IBM PC, XT, AT ☐ 64 KB req. ☐ Cost: $495

First High-Speed DBMS written exclusively for C applications is also Transportable

"db_VISTA™ lets you easily build complex databases with many interconnected record types..."
Dave Schmitt, President, Lattice, Inc.

High-Speed data retrieval and access, are the result of db_VISTA's unique database model. db_VISTA is designed exclusively for C application programmers and developers. Now your applications can retain key benefits of C such as speed, transportability and efficiency.

Independent Benchmark proves High-Speed model 2.76 times faster

An independent software developer benchmarked db_VISTA against a leading competitor. Eleven key retrieval tests were executed with sequentially and randomly created key files.

*Result of 11 Key Retrieval Tests

db_VISTA	:671.24 seconds
Leading Competitor	:1,856.43 seconds

db_VISTA's high-speed database model lets you precisely define relationships to minimize redundant data and only those functions necessary for operation are incorporated into the run time program.

Transportable DBMS Applications with db_VISTA

To give your applications maximum transportability every line of code for db_VISTA is written in C and complete source code is available. db_VISTA operates on most popular computers with over 10 operating systems supported. So whether you write applications for micros, minis, or mainframes...db_VISTA is for you.

How db_VISTA works...

db_VISTA uses your C compiler to build the run-time program. The programmer's interface to db_VISTA is syntactically consistent with the C language.

To use db_VISTA design then compile the schema with the database definition language processor (DDLP). Test your design with the Interactive Database Access program provided. Design your C application with appropriate calls to db_VISTA. Compile and link your C program with the db_VISTA run-time library, and your application is ready to run.

Multi-user and LAN capability

Information often needs to be shared. db_VISTA has multi-user capability and supports simultaneous users in either multi-tasking or local area networking environments, allowing the same C applications to run under UNIX and MS-DOS.

db_QUERY™ lets you ask more of your database

db_QUERY is a linkable, SQL-based ad hoc query and report writing facility. It's also royalty-free.

Royalty-Free Run-Time

Whether you're developing applications for a few customers, or for thousands, the price of db_VISTA is the same. If you are currently paying royalties for a competitor's database, consider switching to db_VISTA and say goodbye to royalties.

FREE Technical Support For 60 days

Raima's technical support program includes 60 days of free telephone support, 60 days of free software updates, and complete documentation. Technical support personnel are available to answer questions about our software or yours. Extended technical support available.

Order Schedule

	db_VISTA	db_QUERY
☐ Single-user	$195	$195
☐ Single-user with Source	$495	$495
☐ Multi-user	$495	$495
☐ Multi-user with Source	$990	$990

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30-Day Money-Back Guarantee

Try db_VISTA for 30 days and if not fully satisfied, return it for a full refund.

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Read what others say about db_VISTA

"If you are looking for a sophisticated C programmer's database, db_VISTA is it. In either a single or multi-user environment, db_VISTA lets you easily build complex databases with many interconnected record types. The multi-user implementation handles data efficiently with a LAN, and Raima's customer support and documentation are excellent. Source code availability and a royalty-free run-time is a big plus."
Dave Schmitt, President Lattice, Inc.

"Not 'yet another user-friendly database,' it is a DBMS aimed at the technical C programmer instead of the non-technical end-user."
Hal Schoolcraft, Data Based Advisor March, 1985

"On the whole, I have found db_VISTA easy to use, very fast with a key find, and powerful enough for any DBMS use I can imagine on a microcomputer."
Michael Wilson, Computer Language September, 1985

db_VISTA Version 2.11

Database Record and File Sizes
- Maximum record length limited only by accessible RAM
- Maximum records per file is 16,777,215
- No limit on number of records or set types
- Maximum file size limited only by available disk storage
- Maximum of 255 index and data files

Keys and Sets
- Key length maximum 246 bytes
- No limit on maximum number of key fields per record—any or all fields may be keys with the option of making each key unique or duplicate
- No limit on maximum number of fields per record, sets per database, or sort fields per set
- No limit on maximum number of member record types per set

Operating System & Compiler Support
- Operating system's MS-DOS, PC-DOS, UNIX, XENIX, SCO XENIX, UNOS, ULTRIX, VMS
- C compiler's Lattice, Microsoft, DeSmet, Aztec, Computer Innovations, Xenix and Unix

Features
- Multi-user support allows flexibility to run on a local area network
- File structure is based on the B-tree indexing method and the network database model
- Run-time size, variable—will run in as little as 64K, recommended RAM size is 256K
- Transaction processing assures multi-user database consistency
- File locking support provides read and write locks on shared databases
- SQL-based db_QUERY is linkable
- File transfer utilities included for ASCII, dBASE optional

Utilities
- Database definition language processor
- Interactive database access utility
- Database consistency check utility
- Database initialization utility
- Multi-user file locks clear utility
- Key file build utility
- Data field alignment check utility
- Database dictionary print utility
- Key file dump utility
- ASCII file import and export utility

*The benchmark procedure was adapted from "Benchmarking Database Systems: A Systematic Approach" by Bitton, DeWitt and Turbyfill, December 1983.

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High-Speed Programming Tools Transportable by Design

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RVA TECHNOLOGY, INC.

☐ Flexquery

Produces reports, creates new data files and combines existing files while maintaining data base. Provides relationship file to integrate data from multiple files. Sorts on any number of keys. Unlimited selection parameters. Compatible with WordStar, RealWorld ABS and Flexaccount.

IBM PC ☐ 64 KB req.

SAN DIEGO COMPUTER CORP.

☐ CPQ

Catalog, pricing and quotation. Maintains pricing catalog with cost, source, retail price, discount rate and vendor information. Prints sales pricing catalog of items suitable for use by customers. Generates quotations to customers with in-house report of profit margins.

IBM PC ☐ 256 KB req. ☐ Copies sold: 40 since 1985 ☐ Cost: $75

SAPANA MICRO SOFTWARE

☐ Sapana: File

Auto-indexing on up to 24 fields, Boolean logic, sorting, merging of files, and exporting and importing ASCII files. Files hold unlimited number of records. Maximum file size supported is over 4 billion bytes. Maximum record size is 4,090 bytes.

IBM PC, PCjr, XT, AT ☐ 256 KB req. ☐ Copies sold: 15 since 1986 ☐ Cost: $195

SAUER COMPUTER SYSTEMS, INC.

☐ Key/500

Maintains multiple indices and allows real-time alteration of indices. User can establish new files and update and print file contents in various formats. Loads variable length text fields via on-board word processor.

IBM PC ☐ Copies sold: 250 since 1974 ☐ Cost: $350-$3,450

SB ASSISTANT

(division of Advanced Creative Technologies, Inc.)

☐ File n' Report

DBMS. Employs CAPASS (Cross Tabbing Routine) algorithm and Soundex intelligence to phonetically find information that user can't spell or pronounce. Features global edits, calculated fields, screen building routines, duplicate options, five level cross tab search, formatted prints, report generator and sort files.

IBM PC ☐ 48 KB req. ☐ Copies sold: 7,000 since 1979 ☐ Cost: $150

SCHNEIDER ASSOCIATES

☐ FIND-IT

Develops and runs multiple data processing applications. Provides tools that design and build data files, enter and edit text with verification and automatic field fill-in, search, sort and display selected data and generate user-defined reports or mail labels.

IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $695-$1,995

SDA ASSOCIATES

☐ File Path

Reviewed Apr 1985 p. 138.

File search utility. Searches all subdirectory levels defined in tree structure for requested file if not found in current directory. Crosses disk drives searching for data files as user requests. Edits current paths with screen editor or modify path option.

IBM PC, XT, AT ☐ Cost: $35

SEASIDE SOFTWARE

☐ askSam (Access Stored Knowledge via Symbolic Access Method)

Text-oriented DBMS. Routes retrievals to screen, printer or disk. Uses variable-length fields and records. Performs arithmetic. Updates records with text editor and batch operations. Uses passwords. Exchanges ASCII files with other systems. Lets user design and use templates and overlays.

IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 650 since 1985 ☐ Cost: $150

SELECT INFORMATION SYSTEMS, INC.

(division of Summa Technologies, Inc.)

☐ 4-1-1

Content-based document locator for hard disk PCs. Maintains a data base of every word in every document. Provides document security through a two Key Public Key Cryptography and document archiving with on-line index.

IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $149

SENTINEL COMPUTER CORP.

☐ Interactive Query/Report Writer

Retrieves non-routine information from data base. Results are displayed or printed. Totals and other arithmetic operations can be performed. Selection sorting and formatting.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 20 since 1980 ☐ Cost: $695

THE SMALL COMPUTER CO., INC.

☐ filePro 16

DBMS. Allows 999 fields per record, 4,608 characters per record, 16,000,000 records per file, 12 indexes per file and 24 digits per numeric field. Includes facility for creating custom screen and report layouts. Permits 10 files to be used concurrently. Provides built-in field types for error checking.

IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 100,000 since 1984 ☐ Cost: $495

☐ filePro 16 Plus

DBMS and applications developer. Supports file creation, screen definition, report writing, labels/forms printing, records viewing, information processing and file indexing. User can post information to other files while in update mode. Includes processing table debugger.

IBM PC, XT, AT ☐ Cost: $990

SOFISTRY, INC.

☐ Private Files

B+Tree structured file management system. Provides full screen and design of file. Allows up to 40 keyed fields to file. Includes built-in report generator.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 2,200 since 1985 ☐ Cost: $149

☐ Private Files PLUS

B+Tree structured file management system. Allows 40 keyed fields to file. Built-in report generator. Import/export features. Moves information into and out of mail merge word processing, spreadsheet and other programs. Performs as front-end processor to other data bases.

IBM PC, XT ☐ 192 KB req. ☐ Copies sold: 2,200 since 1985 ☐ Cost: $149

SOFTCRAFT, INC. (TX)

☐ Btrieve

Record retrieval system for application programmers. Uses subroutine calls to retrieve records equal to, greater than or less than specific key values. Recovers indexes if system fails. Defines up to 24 keys per file. Maximum record length is 65,535. Maximum key length is 255.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 6,000 since 1983 ☐ Cost: $245

☐ Btrieve/N

Record retrieval system for multi-user and LAN applications. Transaction bracketing and pre-image logging guarantees integrity of data files despite concurrency problems that arise in network. Allows up to 24 keys per file and maximum file size of more than four billion bytes.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,200 since 1984 ☐ Cost: $595

☐ Xtrieve

Window-oriented query tool. Enters and retrieves data without writing program. Allows users to build full relational models of data by providing capability of linking multiple Btrieve files. All information needed to build query, including help files, are displayed on screen.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 800 since 1984 ☐ Cost: $195

SOFTSTAR INTERNATIONAL, INC.

☐ Data MANager

Screen design and data field control. Accesses indexed record. Searches data base randomly or sequentially. Redefines fields. Compatible with Mail MANager files. Includes report and printer manager.

IBM PC ☐ 256 KB req. ☐ Copies sold: 40 since 1985 ☐ Cost: $79

THE SOFTWARE BOTTLING CO. OF NEW YORK

SEE AD ON PAGE 401

☐ Flash Code

Program developer for dBase II, III and III plus. Creates and displays screen, reads and edit-checks input data. Specifies variable names, file variables, data types, acceptable data ranges, pictures for edit checking, initial values, calculated fields and indexes.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $150

SOFTWARE CONNECTIONS, INC.

☐ DATASTORE:file

File manager. Stores, manipulates and retrieves information. Includes report writer. Upgradable to relational LAN versions.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $145

☐ DATASTORE:lan

Multi-user relational DBMS for LANs. Handles concurrent access protection for multicomputer LAN, data access security for different levels of users and 32 MB data base. Hidden internal audit trails. Keys stored in B+ Tree structure. Includes custom report writer. Menu-driven.

IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $395-$495

☐ LAN: DATACORE

For software developers and MIS Professionals. Provides MSDOS routines to handle information storage and retrieval. Provides concurrent access protection for multicomputer LAN, data access security for different levels of users and 32 MB data base. Callable from BASIC, Pascal, Assembler and C.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $495

SOFTWARE CONSULTING SERVICES

☐ TEQLIB

Allows a combination of storage of index structures and off-line storage of article abstracts. Attaching a hard disk to a desk top computer allows a system for 50,000 to 100,000 abstracts. Retrieves information from the data base using QUERY program.

IBM PC, XT ☐ Cost: $1,500-$30,000

THE SOFTWARE LINK, INC.

SEE AD ON PAGE 265

☐ MultiLink Advanced Version of Btrieve/N

File management for applications development in BASIC, Pascal, COBOL, C, FORTRAN and APL. Accesses data base. Controls simultaneous record updates. Provides file recovery in event of system crash.

IBM PC ☐ Cost: $595

SOFTWARE MARKETING ASSOCIATES

☐ FYI 3000 Plus

Free-format text management. Handles information filing, cross referencing and retrieval. Accommodates entries up to 2,000,000 characters in length. Provides capacity of 65,000 unique alphanumeric key words and 65,000 individual entries.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 3,000 since 1983 ☐ Cost: $395

☐ SuperFile
Stores and retrieves text information. Text can be free form. Search topics are combined with AND/OR/NOT for retrieval across files.
IBM PC ☐ 64 KB req. ☐ Copies sold: 6,000 since 1982 ☐ Cost: $195

SOFTWARE PUBLISHING CORP.

☐ PFS:Professional File
File management/reporting. Organizes, updates, retrieves, analyzes and reports information. Customized field calculations. Global search/replace. Imports/exports data from other office programs. Accommodates 29,500 records, 100 fields per page and 3,200 fields per record. Compatible with IBM PC Network, Novell Advanced Netware/86 and 3Com 3+.
IBM PC, XT, Convertible, AT ☐ 256 KB req. ☐ Introduced: 1986

SOFTWARE SOLUTIONS, INC. (CT)

☐ Dataease
Includes any number of indices per file, wild card searches, up to eight screens per file and report, up to 99 choice field selections, and data interface formats of DIF, ASCII, Multi-Mate, Mail Merge and dBase II.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $600

SOFTWARE STUDIOS, INC.

☐ Personal Data Base
Features 200 names in RAM, mail merge, sort/select, labels and envelope printing. Rolodex card printing, telephone directory, auto-dial and name search.
IBM PC ☐ 128 KB req. ☐ Cost: $1,545

SOFTWARE SYSTEMS TECHNOLOGY, INC. (MD)

☐ XDB
Interactive system with help, directory and tutorial functions. Query language compatible with IBM's SQL, report and graph writers, and data base editor that combines search, input, update and delete functions and forms processor for data base access.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $375-$750

SOFTWEST PROGRAMMING

☐ Data Reporter I, II, III
Data base and report generator. Data Reporter III includes file converter, utilities, plotter/analyzer and modem for Apple or graphs and statistics for IBM PC.
IBM PC ☐ 48 KB req. ☐ Cost: $99-$199

SOURCEVIEW SOFTWARE INTERNATIONAL

☐ DB plus
Adds/deletes files or categories, finds and changes data, sorts and reads disks. Transfers data into log or polynomials. Plots data on screen with statistical analyses.
IBM PC ☐ Cost: $99

☐ Super Manager II
Allows related functions except calculator and graphics output.
IBM PC ☐ Cost: $50

☐ Synthesis II
Creates files. Adds, reviews, changes and deletes records. Provides protection against entry errors. Numeric fields right justified. Displays reports vertically or horizontally. Performs calculations, mass deletions. Records contain up to 1,024 bytes.
IBM PC ☐ 64 KB req. ☐ Cost: $99

SPECIALIZED SYSTEMS CONSULTANTS

☐ HEXPOSE
Binary file editor. Edits in hex or ASCII. Patches object modules. Examines word processing files. Repairs damaged files and verifies results of I/O operations. Handles object files of programs and files in development. Modifies sector contents. Views 2 sectors simultaneously.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 5 since 1985 ☐ Cost: $75

SSR CORP.

☐ Omnifile
Includes query capabilities. Provides multiple field indexes, password protection and editing function. Shares data with spreadsheet, word processing and graphics when combined with DIF and ASCII interfaces. Designed for law, finance, marketing, medicine, real estate and insurance.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 10,000 since 1983 ☐ Cost: $425

STANTON SOFTWARE

☐ BEAST Data Manager
Maintains and retrieves data. Supports selection, sorting, break levels, and totals.
IBM PC, XT ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $65

STILWELL SOFTWARE PRODUCTS

☐ FreeFile
Relational data base. Supports up to 2 billion records. Records can be up to 1,000 characters long. Rebuilds damaged data base. Report writer.
IBM PC, XT, AT, Portable PC ☐ 256 KB req. ☐ Copies sold: 5,000 since 1985 ☐ Cost: $45

STRUCTURED SYSTEMS GROUP, INC.

☐ Analyst
File management system with report writing. Customized data entry with checking features. Computes totals, subtotals, cross-footings, cross rows and down columns. On-line inquiry function on selected records and user-specified report formatting.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 5,000 since 1979 ☐ Cost: $250

SUMMA TECHNOLOGIES, INC. (OR)

☐ 411
Document retrieval and security system. Indexes each word and file on hard disk. Provides encryption using passwords.
IBM PC ☐ 256 KB req. ☐ Cost: $149

SYNERCOM TECHNOLOGY, INC.

☐ INFODAPT
Open-architecture interface between INFORMAP II data base and various office automation type work stations and terminals manufactured by companies other than Synercom.
IBM PC ☐ 2,000 KB req.

SYSTEM AUTOMATION SOFTWARE, INC.

☐ reQuest
Multi-user relational DBMS. Provides menu-driven operation. Features multi-file data structures, down or up loading, interfaces with Lotus 1-2-3 and WordStar, screen paint entry forms, calculated fields, statistics, security to field level, ASCII integration and 16 key fields. Generates reports.
IBM PC ☐ 384 KB req. ☐ Copies sold: 10,000 since 1983 ☐ Cost: $695

TEKTON SYSTEMS, INC.

☐ Aspen/2
Data management system with data dictionary and optional CRT formatting. Uses set theory inquiry methods.
IBM PC ☐ 36 KB req. ☐ Introduced: 1980 ☐ Cost: $24,500-$36,750

TELION SOFTWARE

☐ Free Filer
Divides diskette into parcels of information; text files into paragraph parcels. Allows user-defined parcels. Searches, sorts and prints parcels. Searches all or selected files. Full Boolean search capabilities. Enters free-form text.
IBM PC, XT ☐ 128 KB req. ☐ Cost: $80

TEXAS INSTRUMENTS

☐ TI dBASE III
TI version of Ashton-Tate's dBASE III DBMS. Stores up to 1 billion records per file and 128 fields per data base. Reads ASCII files from Framework, WordStar and Lotus 1-2-3.
IBM PC ☐ 256 KB req. ☐ Cost: $695

TIMEWORKS, INC.

☐ Data Manager 2
Items can be retrieved and printed by category, index code, date range or amount range. Allows a cross search of categories. Allows user to arrange stored items in increasing or decreasing order, alphabetically, numerically or chronologically.
IBM PC, PCjr ☐ 64 KB req. ☐ Cost: $130

TOM SOFTWARE, INC.

☐ EZ-SPEED Records Management System
Includes nine input displays for each file, 255 fields per file and 32 files, holding 4,000 characters per record. Performs mathematical operations. Produces detailed lists of structure and contents of files. Supports custom file format, screen displays and reports. Stores and recalls reports.
IBM PC, XT ☐ 28 KB req. ☐ Copies sold: 250 since 1983 ☐ Cost: $800-$3,500

TOMINY, INC.

☐ Data Base-Plus
DBMS with query/report writer, screen handler, print handler, utilities and optional development language. Includes application portability, logical data base structure, programming productivity tools, data input and retrieval, English-like query language and distributed data base concepts.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 2,000 since 1978 ☐ Cost: $1,700

☐ DataBASICplus
DBMS and command interface to BASIC programming language. Builds, accesses and maintains files. Provides logical data base for storing and accessing information. Provides data independence to accommodate changing requirements.
IBM PC ☐ 192 KB req. ☐ Copies sold: 100 since 1986 ☐ Cost: $100

TRANSACTION SYSTEMS, INC.

☐ Advance Numeric Data Base Management System
DBMS for use with numerical data and descriptive data. Interfaces to popular data bases and spreadsheets.
IBM PC, XT, AT, PCjr, XT/370, 3270-PC, Portable PC ☐ 128 KB req. ☐ Cost: $250

TRANSTIME TECHNOLOGIES CORP.

☐ DATAMAT
Relational DBMS and productivity decision support system for business, research, government. Provides bar charts and scatter plots, math functions, statistics, form generation and text processing with built-in interface for other word processors. Partial and total batch processing capability incorporated.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $125-$17,600

TRAVELING SOFTWARE, INC.

☐ T-base

Relational DBMS. Customized files with up to 50 fields. Allows sharing and borrowing of information among multiple files. Provides spreadsheet-like capabilities. Field descriptors limited to five primary and five secondary plus 13 report commands.

IBM PC ☐ 16 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $100

☐ Ultimate ROM II

Provides T-base DBMS, T-Word text formatter and IDEA outline processor.

IBM PC ☐ 16 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $230

TRIO SYSTEMS

☐ C-Index/Plus

ISAM and variable length data management for C programmers. Functions are provided for data storage handling. Includes B+Tree ISAM indexing, variable length data storage, virtual memory buffering and multiple files open simultaneously. Multi-user record locking for LAN and UNIX.

IBM PC ☐ 26 KB req. ☐ Introduced: 1983 ☐ Cost: $395

☐ Forth Index+

Provides extensions to the Forth system for ISAM indexing capabilities. Includes B+Tree structure, multiple OS files or screen file operation and variable length and duplicate keys. Compatible with Laboratory Microsystems Forth (fig-Forth and 83 standard versions).

IBM PC ☐ 8 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $300

UNIFY CORP.

SEE AD ON PAGE 331

☐ UNIFY

Integrated, multi-user, relational DBMS with application development tools, interactive menu handler, command line functionality, screen data entry, query by forms, SQL (structured query language) and report writer. Allows sorting, subtotaling, totaling , complex arithmetic expressions and output formatting.

IBM RT ☐ 384 KB req. ☐ Copies sold: 15,000 since 1981 ☐ Cost: $1,495 and up

UNIPRESS SOFTWARE, INC.

☐ Phact ISAM File System, Report Writer and Query Language

Keyed B+Tree file system for maintaining records. Allows formatted reports from single or multiple Phact data bases. Provides ad hoc Phact-query canned inquiries into Phact data bases.

IBM PC ☐ 64 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $265 and up

UNISOURCE SOFTWARE CORP.

☐ LEVERAGE-IBM PC/UNIX

List management package. Includes a makescreen utility and standard templates. Generates documents, letters and mailing lists.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $395

UNIVAIR, INC.

☐ UNI-FILE

DBMS with report generator. Supports 99 fields, math functions, external files, and most word processors. Includes electronic 10-key calculator and typewriter modes. Multiple keys can be changed anytime.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $195

UNIVERSAL DATA RESEARCH, INC.

☐ Data Base Management System

Creates files, adds, deletes or modifies information, organizes file in different ways and prints reports and labels according to operator set parameters. Accesses 32,000 records with 36 fields per record. Can be used as programming tool.

IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1978 ☐ Cost: $295-$595

UNLIMITED PROCESSING, INC.

☐ INFORMA

Information management system for single and multi-user, multi-tasking and multi-processing networking. Structures data for storage and retrieval. Menu-driven, screen oriented tutorial response techniques create, modify or customize programs.

IBM PC ☐ 192 KB req. ☐ Copies sold: 2,000 since 1982 ☐ Cost: $320-$795

☐ Team-Up

Total environment for application management system. Single- and multi-user and multi-processing networking. Structures data for storage and retrieval. Screen-oriented tutorial response techniques create, modify or customize programs. Enters, updates and deletes records across 255 data base boundaries.

IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 1,600 since 1985 ☐ Cost: $795-$1,795

VALUATION SYSTEMS CO.

☐ DSR (Data Storage and Retrieval System)

DBMS. Stores data by number, code or letter, accesses files with specific search criteria, handles multi-level sorts, retrieves records meeting search specifications, builds unlimited number of files, retrieves specific record for inspection or editing and design formats for listing or printing.

IBM PC ☐ 28 KB req. ☐ Copies sold: 57 since 1979 ☐ Cost: $750

VERSASOFT CORP.

☐ dBMAN

DBMS. Compatible with dBASE II and III. Provides ten open files, memory variables, debugger, 64 fields and 2,000 characters per record, and updates index file.

IBM PC ☐ 256 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $292

VIA TECHNOLOGY, INC.

☐ IntelliView

User can retrieve, analyze and merge information from related data files in single query or report. Handles Lotus 1-2-3, dBASE III, pfs:file and user-defined ASCII data files. Displays fields, sorts, selects, adds calculated fields, summarizes, formats and saves/recalls view commands.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $50

WANG LABORATORIES, INC.

☐ PC Data Base

DBMS.

IBM PC ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $650

☐ PCDB

Enters information into data base, selects records for review or processing and processes retrieved data. Provides information in form of summary and calculated fields. Prints or displays results of queries and creates data dictionary.

IBM PC

WATCOM PRODUCTS, INC.

☐ WATFILE Data Management System

Interactive, command-oriented package provides facilities to enter, edit, sort and merge files. Handles arithmetic, character and logical calculations, and performs extractions. Generates reports.

IBM PC, XT, PCjr, Portable PC, AT ☐ 192 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $295

WORDPERFECT CORP.

☐ SSIData

DBMS. Includes special fields for free form text, data forms defined without programming with function keys. Reports compatible with WordPerfect and other word processing programs.

IBM PC, XT, PCjr ☐ 128 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $195

WORDTECH SYSTEMS, INC.

SEE AD ON PAGE 321

☐ dBXL

Uses same data/index files as dBASE III Plus. Supports dBASE syntax, reports and format files. Provides networking capability. Allows 10 files open simultaneously and 7 open index files open per file.

IBM PC ☐ Cost: $169

WOS DATA SYSTEMS, INC.

☐ WOSbase Data Management System

Multi-user DBMS. Allows for up to 45 concurrent users per file on local area network. Functions include file creation, windowing, file maintenance, report creation and an update function which allows for creation of posting and updating routines.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $195-$995

XYTON, INC.

☐ Fileon

IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $99

ZANTHE INFORMATION, INC.

☐ ZIM

Reviewed Oct 1985 p. 96; Jun 1986 p. 195.

Fourth generation DBMS and application developer with English-like command language and Entity-Relationship Model of data. Integrates data base manager, report generator, query language, interactive forms design and manipulation, data base definition, data dictionary, programming language and a compiler.

IBM PC, AT ☐ 448 KB req. ☐ Copies sold: 2,200 since 1983 ☐ Cost: $795

ZYLAB CORP.

☐ ZyIndex Plus

Indexing, full-text Boolean logic and selective searching for up to 15,000 documents and 15,000 files. Searches text stored on CD-ROMs and WORMs. Provides simultaneous multi-user read/write access to network file servers on leading LANs. Annotated mark and save capability

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $695

☐ ZyIndex Professional

Indexing, full-text and selective searching for up to 15,000 word processing documents and 5,000 word processing files. Includes clean-up utility. Searches text stored on CD-ROMs and WORMs. Annotated mark and save capability.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $295

☐ ZyIndex Standard

Indexing and full-text searching for up to 15,000 word processing documents and 500 word processing files. Searches text stored on CD-ROMs and WORMs. Annotated mark and save capability.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 ☐ Cost: $145

DATA CENTER MANAGEMENT

APEX RESOURCE

☐ Syslog

Logs the usage of computer time. Works as a non-resident extension to DOS. Reporting options include selective printing by single entry, entry range, date, date range, operator or project.

IBM PC, PCjr, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $50

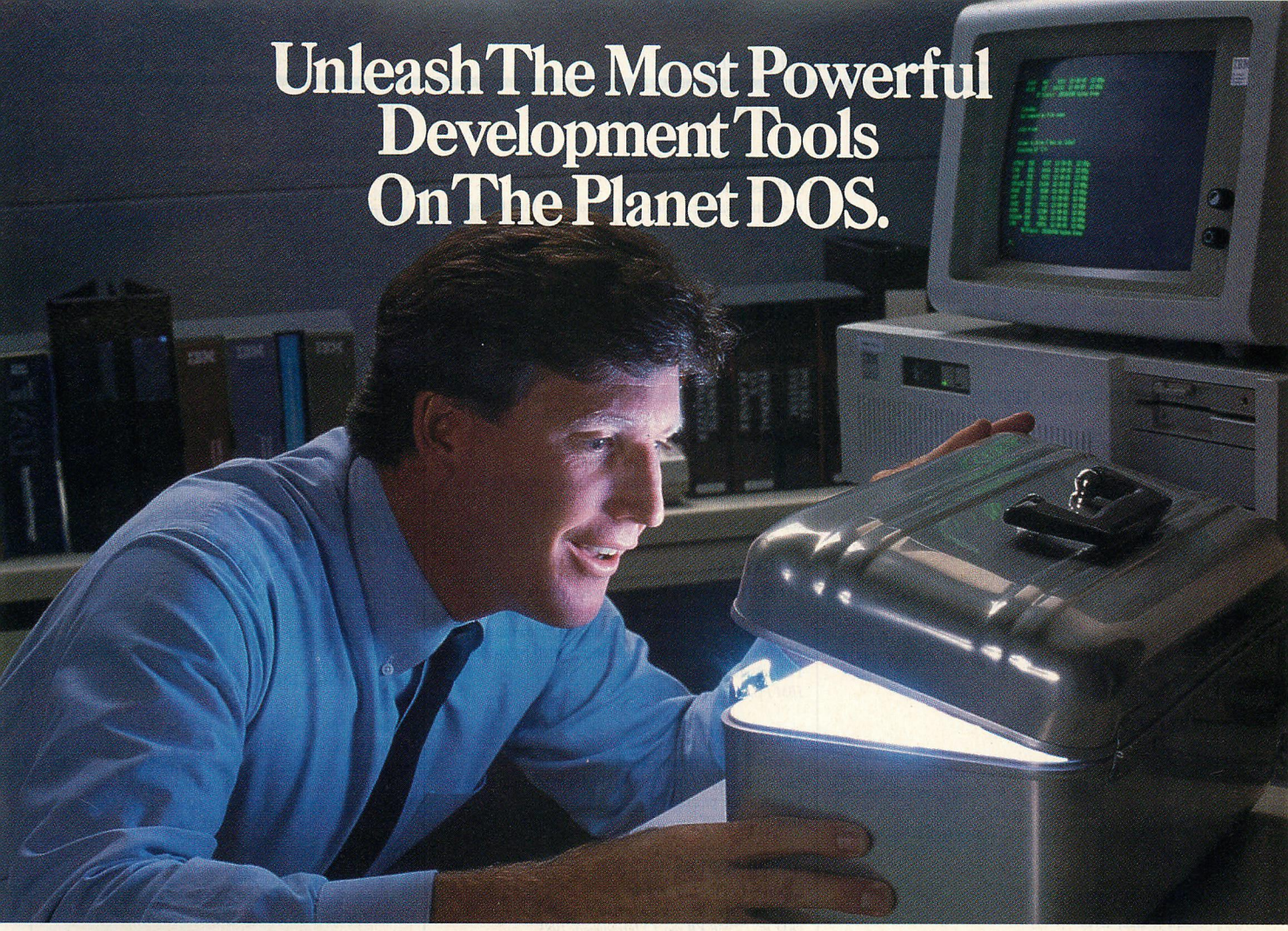
BENDATA MANAGEMENT SYSTEMS, INC.

☐ CATS (Computer Assets Tracking System)

Provides on-line support for managing on-order and installed equipment, problem management and change management. Features on-line invoice approval, budgeting, attached to pointers and charge-back and numerous analytical and informational reports. Files are accessible by dBASE III and Lotus 1-2-3.

IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $695-$5,900

Unleash The Most Powerful Development Tools On The Planet DOS.



UNIFY DBMS/DOS. The UNIX World Leader Brings A New Dimension To DOS Application Development.

What happens as the DOS world expands? As a new generation of hardware takes over? As networking becomes more important? The potential is enormous. But until now, the tools to achieve it have been limited.

Now a leader from another world unleashes that potential: UNIFY® DBMS. The leading relational DBMS in the UNIX™ world. And now, the most advanced set of application development tools in the DOS world.

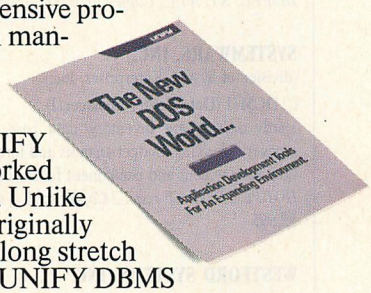
With UNIFY DBMS, DOS developers have new power to build more sophisticated applications than ever before possible.

The power to write high performance "C" programs that will access the data base, using Unify's Direct Host Language Interface.

The power of an industry standard query language—SQL.

The power of unmatched speed in production applications. Only UNIFY DBMS is specifically engineered for transaction throughput. With unique performance features like PathFinder™ Architecture multiple access methods, for the fastest possible data base access.

The power of comprehensive program development and screen management tools. Plus a state-of-the-art fourth generation report-writer.



What's more, with UNIFY DBMS, the potential of networked applications becomes a reality. Unlike DBMS systems which were originally single-user (and which have a long stretch to accommodate more users), UNIFY DBMS is a *proven* multi-user system.



And because UNIFY DBMS/DOS is the best of two worlds, it offers you the most powerful benefit of all: DBMS applications that can grow as your needs grow. From single user DOS. To networked DOS. To multi-user UNIX. All without changing your applications.

Call the Unify Information Hotline for our free booklet: The New DOS World.
(503) 635-7777

UNIFY
CORPORATION
4000 Kruse Way Place
Lake Oswego, OR 97034

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CIRCLE NO. 294 ON READERS SERVICE CARD

COMPASS

☐ Job Queue
Job scheduling and processing. Schedules multiple jobs at one time. Performs restart of active jobs.
IBM PC, AT

CONGENIAL SOFTWARE

☐ Easy Log
Logs and summarizes amount of time spent using computers for up to 10 users and 10 activities. Creates and prints a periodic general log. Records date, time, and number of hours used.
IBM PC ☐ 64 KB req. ☐ Copies sold: 10 since 1985 ☐ Cost: $30

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Time Manager
IBM no. 6024-019. Resource tracking systems.
IBM PC ☐ Cost: $100

DOUGLAS D. JOHNSON

☐ PC Usage Log
Builds journal of computer usage. Generates reports showing daily and monthly usage of all activities with user's initials, date, sign-on/off times and elapsed time in hours. Corrects input errors. PC identification distinguishes reports of different PCs.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 53 since 1984 ☐ Cost: $35

MICROCLEAR, INC.

☐ AutoLOG
Records time spent on computer for cost allocation and tax deduction purposes. Defines up to 30 categories. Stores time intervals. Provides summary reports.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $50

SYSTEM AUTOMATION SOFTWARE, INC.

☐ Logger
Tracks and documents computer usage. Reports usable as audit trails or billing out time used. Features file outputs to Lotus 1-2-3 and reQuest DBMS. Reports include username, day, date time-in and-out, directory name and user-defined parameters.
IBM PC, XT, AT ☐ Copies sold: 200 since 1985 ☐ Cost: $75

SYSTEMWARE, INC.

(division of System Enterprises, Inc.)
☐ DCM/I (Data Center Manager/I)
Hardware/software inventory data base. Supports disaster recovery planning, budget analysis and forecasting, configuration management and component failure impact analysis.
IBM PC ☐ 512 KB req. ☐ Copies sold: 3 since 1985 ☐ Cost: $2,995

WESTFORD SYSTEMS, INC.

☐ Micro-Track
Records and reports PC usage for businesses. Tracks through LOGON/LOGOFF procedure that associates user-ID, system-ID and account code with computer session. Generates log listings and summary histograms by machine, user or account.
IBM PC, XT, AT ☐ 96 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $60

WYSSWARE

☐ WorkLog
Keeps data base of PC usage including idle time and keystrokes entered. Implements security features. Reports include time-of-day usage histograms and summary breakdowns by 5 use-categories.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $75

DATA CONVERSION AIDS

THE ALTERNATE SOURCE

☐ Hypercross II
Formatting package. Alien to alien transfers. Lists tagged files to be copied. Handles random files with record lengths other than 256.
IBM PC ☐ Cost: $50-$100

ALTERTEXT, INC.

☐ Altertext System I and II
Transfers data between different PCs, word processors and typesetting equipment. System I reads floppy disks and transmits files. System II provides disk-to-disk conversions.
IBM PC ☐ 64 KB req. ☐ Copies sold: 380 since 1982 ☐ Cost: $4,500 and up

☐ Graphic Arts Software Package
Converts documents from one system to another while maintaining format integrity of documents being converted.
IBM PC ☐ Cost: $4,500

ANIMAT/USA

☐ VALID to Paragon Netlist Conversion Interface
Converts parts and wiring data derived from Valid Logic Scald-system into Paragon/EIS compatible data. Allows user to read data from 9-track mag tape or IBM-formatted floppy disk into PCB design system.
IBM PC, XT, AT ☐ Cost: $2,500

ARITY CORP.

☐ Arity File Interchange Toolkit
Allows programs written in Arity/Prolog to read and write files to/from other programs.
IBM PC, XT, AT

ARMOR SYSTEMS, INC.

☐ Series-To-Plus Conversion
Transfers data files from Excalibur series to Excalibur Plus.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985

AWARD SOFTWARE, INC.

☐ Crossdata
Converts CP/M to DOS and reads disks from other systems. Does not require additional hardware or software to convert and transfer files. All format conversion is performed in disk to disk transfer operation.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $99

DAVID R. BLACK & ASSOCIATES, INC.

☐ COBOL Converter-Batch
Table-driven COBOL computer-to-computer conversion. Produces conversion listing of original program with comments reflecting changes and new program listing including expanded copy library items.
IBM PC ☐ 40 KB req. ☐ Copies sold: 100 since 1977 ☐ Cost: $10,000

BOSS SYSTEMS, INC.

☐ CPI/CPO
Allows MS-DOS systems with correct density drives and Tall Trees Q-drive disk driver and format utility to read and write 5 ¼ inch diskettes in UNIX System V CPIO format. Defines number of tracks, sectors and bytes per sector separately for each function.
IBM PC

THE COMPUTER CONSULTING CENTER, INC.

☐ PCLYNX/36, PCLYNX/38
Data transfer from micro to mainframe. Facilitates transfer between PC and S/3X. Uses PC for off-line data entry. Uploads/downloads to/from PC and IBM S/34, 36, 38.
IBM PC ☐ 128 KB req. ☐ Copies sold: 4 since 1984 ☐ Cost: $695

COMPUVIEW PRODUCTS, INC.

☐ Systran, Transys
CP/M-86 to MSDOS file transfer. Initializes MSDOS diskettes, erases files, displays records and directory. Boots MSDOS from CP/M-86 system.
IBM PC ☐ 64 KB req. ☐ Copies sold: 250 since 1983 ☐ Cost: $120

☐ Translator Macro
VEDIT Plus macro translates Assembly code to 8086 source file. Requires VEDIT Plus.
IBM PC ☐ Cost: $50

CONTROL-C SOFTWARE, INC.

☐ BIChange
Converts programs to new OS format.
IBM PC, AT ☐ Cost: $495

☐ BIFCON/BI-Change
BIFCON converts Business BASIC programs/data files to ASCII format and vice versa. BI-Change converts program/data files from one OS to another.
IBM PC ☐ 64 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $175

☐ DChange
Converts data to new OS format.
IBM PC, AT ☐ Cost: $325

DATACHANGE, INC.

☐ Utilities
Includes Data Translator, Field Handler, File Splitter, Line Ender, Underscore and I/O modules. Changes/reformats PC application files, data and information to virtually any output type. Handles word processing, data base and spreadsheet files.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $995

DYNACOMP, INC.

☐ CP/M Data File Translator
Translates file formats from sequential to random and vice versa.
IBM PC, PCjr ☐ 48 KB req. ☐ Cost: $40

FLAGSTAFF ENGINEERING

☐ Word and Typesetting Connection
Transfers data from NBI, CPT, OS/6 and Displaywriter to revisable format text or ASCII text file. Reads/writes between eight inch word processing systems and IBM PC.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $695

GENERIC COMPUTER PRODUCTS, INC.

☐ F-Trans
Transfers files between CP/M-80 and/or MSDOS computers regardless of system and disk formats. Transmits over phone using modems or directly via serial ports. Allows multiple file transmission with single command.
IBM PC ☐ 32 KB req. ☐ Introduced: 1984 ☐ Cost: $60

GENERIC SOFTWARE, INC.

☐ Auto-Convert
Transfers AutoCAD drawing files to Generic CADD and Generic CADD drawing files to AutoCAD, or 3D drawings from MEGACADD's Design Professional and MicroCADD's 3D package to Generic CADD.
IBM PC ☐ Cost: $25

GENESIS MICROSYSTEMS

SEE AD ON PAGE 373

☐ Access-II
Allows Intel's 8080-based ISIS software and Intel's 8080 linking and locating utilities to run on an IBM PC or compatible computer.
IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $1,995

☐ Access-86
Runs UDI-based 8086 development software on IBM PC or MSDOS-based systems.
IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $995

☐ GENCOM
Converts located files to MSDOS com files. Produces symbol table for Genesis GeneScope.
IBM PC, XT, AT ☐ 192 KB req.

☐ GENEXE
Converts located, linked files to MSDOS exe files. Produces debug symbol table for Genesis GeneScope.
IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $300

☐ OH86
Converts object files to standard Intel hex format.
IBM PC, XT, AT ☐ 192 KB req.

GTEK, INC.

☐ CPEmulator
Copies CP/M programs to MS-DOS or PC-DOS diskettes. Includes CP/M conversion utility.
IBM PC, XT, AT ☐ Cost: $199

HAI SOFTWARE, INC.

☐ HAI*LINE Data Converter
Accesses HAI*LINE data files. Creates duplicate files in DIF, ASCII, SYLK format.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $145

IBM PERSONALLY DEVELOPED SOFTWARE

☐ File Conversion Utility
IBM PDS no. 6276-629. Converts selected rows and columns of ASCII data into Lotus-retrievable file for spreadsheet use or into new specification specific PC file. Monochrome and color EGA support.
IBM PC, XT, AT, 3270-PC, PCjr, Portable PC ☐ 128 KB req. ☐ Cost: $30

INTERSECTING CONCEPTS, INC.

☐ Media Master Plus
Converts CP/M software to run on MSDOS and PCDOS machines.
IBM PC ☐ Cost: $60

JAMES RIVER GROUP, INC.

☐ Convert
Creates new ASCII file from any JRG data file. ASCII files are readable by all word processors and many spreadsheets. Extracts data from GL and makes data readable by Lotus 1-2-3 or Symphony. Places AR customer names into WordStar file.
IBM PC, XT, AT, PCjr ☐ 192 KB req. ☐ Cost: $40

KEYWORD OFFICE TECHNOLOGIES, LTD.

☐ Com.File
Document conversion. Translates documents for transmission to previously incompatible word processors or PCs. Ensures document integrity/security. Stores information in encrypted format indefinitely at source or target sites. Uses existing PBXs, LANs and WANs. Requires Keyword 7000.
IBM PC ☐ Cost: $495

MICHTRON, INC.

☐ SuperCalc III ZAPS
Converts SuperCalc III for IBM PC version 1 to run on Sanyo.
IBM PC ☐ 256 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $30

MICRO INTERFACES CORP.

☐ RUN/CPM
Allows IBM PC or compatible to run CP/M-80 programs at microprocessor speed without co-processor board.
IBM PC ☐ 192 KB req. ☐ Introduced: 1985 ☐ Cost: $100

MICROTECH EXPORTS, INC.

☐ Reformatter Conversion Software: MSDOS-IBM 3740
Bi-directional file conversion. Allows micros running under MSDOS to read and write single-sided, single-density IBM 3740 formatted diskettes. Blocked and/or spanned records on IBM diskette can be read and written.
IBM PC ☐ 128 KB req. ☐ Copies sold: 700 since 1983 ☐ Cost: $350

☐ Reformatter Conversion Software: PCDOS-IBM 3740
Bi-directional file conversion. Allows IBM PC to read/write IBM 3740 formatted single-sided, single-density diskettes. Blocked and/or spanned records on IBM diskette can be read and written.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $350

MID-AMERICAN CONTROL CORP.

☐ Prompt Personal Computer Interface
File transfer from MACC's PROMPT or EDX data sets to PC with Lotus or other files.
IBM XT, AT ☐ 25 KB req. ☐ Copies sold: 10 since 1985 ☐ Cost: $2,500

NATIONAL SOFTWARE ENTERPRISES, INC.

☐ File Converter
Converts ASCII files to PFS:File, IBM Filing Assistant or dBASE III. Merges up to 9 ASCII records into one data base and splits one ASCII file into multiple data base files. Runs in batch file mode.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $150

PCX

☐ Read-DOS
File transfer and conversion. Inspects directory of MSDOS/PCDOS diskette and transfers any or all files onto CP/M-86 diskette.
IBM PC ☐ 64 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $75

PUBLISHER CONTROL SYSTEMS, INC.

☐ TRS/DOS Basic Files to Xenix Conversion Software
Converts BASIC data files from TRSDOS to XENIX file format at high speed. If a file follows more than one fielding structure, program changes to the appropriate field structure.
IBM PC

REAL-TIME COMPUTER SCIENCE CORP. (RTCS)

☐ UDI
Transfers utilities, languages and programs from Series II, III, IV to IBM PC, XT or Compaq. Transfers files from IBM to Intel Series II, III, IV. Runs Intel software on IBM PC.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 13,500 since 1982 ☐ Cost: $500

SAMKHYA SOFTWARE CORP.

☐ PIK'r, MACROPIK'r
File format conversion utility. Reformats mainframe reports into micro formats and micro data into other micro formats.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $95 (PIK'r); $249 (MACROPIK'r)

SELFWARE, INC.

☐ Convert
Reads, writes and formats CP/M diskettes on IBM compatibles. Moves files between CP/M and MSDOS at disk copy speed. Supports over 115 CP/M formats on menu. Creates CP/M formats.
IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 3,500 since 1983 ☐ Cost: $69

SOFTOOL CORP.

☐ FACT (FORTRAN Automatic Conversion Tool)
Converts FORTRAN code from one machine to another or from one dialect to another. Remaining incompatibilities are documented.
IBM PC ☐ Copies sold: 1,500 since 1980 ☐ Cost: $4,000

SOFTSYNC, INC.

☐ All Around Converter
Converts files from data bases or spreadsheets to another file format. Works with files created by dBASE, Lotus 1-2-3, Symphony, SuperCalc, Multiplan, ASCII, Sylk, DIF and Delta. User can change field names using up to 22 characters and definition of field types.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $49

SUNRAY SALES, INC.

☐ Timesaver 10
Converts WordStar, MultiMate, WordStar 2000 and OfficeWriter files to ASCII character files. Removes word processing codes and soft CR. New files used by typesetting equipment, other word processing programs, host computers or bulletin boards. Includes hex search and replace utility.
IBM PC ☐ Cost: $40-$150

TRAX SOFTWORKS, INC.

☐ TieLine
File transfer system designed to transfer data between an Apple II and an IBM PC or XT using only standard hardware supplied with each machine.
IBM PC, XT ☐ 48 KB req. ☐ Copies sold: 400 since 1983 ☐ Cost: $395-$495

UNIFORM SOFTWARE SYSTEMS, INC.

(subsidiary of Locus Computing Corp.)

☐ Connector
Runs Lotus 1-2-3 concurrently with UNIX tasks under XENIX.
IBM AT/XENIX ☐ 640 KB req. ☐ Cost: $149

☐ PC/IX Connector
Runs DOS applications such as Lotus 1-2-3, WordStar and TopView under UNIX OS.
IBM PC, XT, AT/PC/IX ☐ 512 KB req. ☐ Cost: $349

USLYNX

☐ InterMedia
Maintains custom data base of I/O and translation table configurations. Swaps tables in and out while processing files. Merges or splits files and adds job formats. User can create fonts. Displays more than 1 programmable character set at once. Counting translations, decipher tabular matter and fielded information.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 500 ☐ Cost: $10,950 and up

VERICOMP

☐ dB III Export
Translates Lotus 1-2-3 or Symphony worksheet files into dBASE III data base files. Allows data in Lotus 1-2-3 or Symphony worksheet files to be appended to existing dBASE III data base file. Works with dB III Import to provide 2-way conversion.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $75

☐ dB III Import
Translates dBASE III data base files to Lotus 1-2-3 or Symphony worksheet files. Creates data base ranges and form window during conversion to Symphony worksheet file. Sets up data query input range during conversion to Lotus 1-2-3 worksheet file.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $75

WESTERN WARES

☐ ICX-ISIS EXchanger
Initializes disks with ISIS file structure. Includes object checksummer for ISIS and checksumming patch utility.
IBM PC ☐ 48 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $89

WOODCHUCK INDUSTRIES

☐ P-tral
Language translator. Converts BASIC to Pascal. Reads BASIC source program from disk and generates equivalent Pascal source code. Supports BASIC instructions excluding shape/DOS commands and immediate mode instructions.
IBM PC ☐ 64-128 KB req. ☐ Introduced: 1985 ☐ Cost: $179

DATA ENTRY/ ACQUISITION

ALTEK CORP.

☐ MICRODIJ

Digitizing interface allowing for area, length and volume calculations, point and stream mode digitizing and screen graphics while digitizing. Permits rectangular grid and multiple linear regression transformations. User-defined ASCII format output.

IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $995

ANNIS-MILLER SYSTEMS, INC.

☐ PDS Data Collection

Uses personal data station terminals to network to PC. Terminals display prompts to operator for data entry. Supports keyboard or bar code entry.

IBM PC ☐ Cost: $3,000

APPLIED INFORMATION SYSTEMS, INC. (NC)

☐ EasyEntry

Forms management and data entry tool. Validity checking, verification, data retrieval and modification, math capabilities, forms chaining, windowing and color.

IBM PC ☐ 60 KB req. ☐ Copies sold: 350 since 1980 ☐ Cost: $500-$7,500

AUSDATA/USA, LTD.

☐ Ausdata Entry

Replaces such dedicated terminals as IBM 3741 or 5280 or Olivetti 523 to run data entry and other programs. Includes utility programs for copying, reformatting, printing and deleting batches of data and for maintaining format programs, defining data-entry jobs and copying disks.

IBM PC ☐ Copies sold: 2,000 since 1980 ☐ Cost: $750

THE BRIDGE, INC.

☐ Sides/PC

IBM PC

CDS COMPUTING, INC.

☐ Key Base

Key-to-disk data entry. Alpha, numeric, decimal and special editing, operator statistics, multi-level formatting, zip code/state code verification and keypunch verification. Range checks, tables, COBOL subroutines, check digit and reformat I/O.

IBM PC ☐ Introduced: 1982 ☐ Cost: $25,000

CIVILSOFT

(division of The Technical Group, Inc.)

☐ Digiplus

Digitizing input program which operates as planimeter to calculate areas and lengths. Creates output file of X, Y, Z (northing, easting and elevation) coordinates. Output may be used as input to CIVILSOFT's Contour.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $290

COMPUTER CONTINUUM

☐ LAB 40-PC Scope

Data acquisition and graphics for scientists, researchers and technicians. Digitizes and then displays 1, 2 or 4 channels simultaneously. Samples frequency from 3-650,000 samples per second. Displays up to 16K samples per scope sweep with adjustable squash factors.

IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $175

COMPUTER KEYES

☐ Data Entry Emulator

Data entry and two-pass verification of batch input data. Formats created and maintained by operators. Alpha/numeric check, field totals, range checks, table lookups and check digits.

IBM PC ☐ 192 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $395

CONTROL DATA CORP.

Science Information Services

☐ VistaFORM

Data entry/validation system. Consists of two programs. VistaFORMAT creates data entry forms. VistaSCREEN enters data using forms created during a VistaFORMAT session.

IBM PC

CORE TECHNOLOGY CORP.

☐ QuicKey

Collects data off-line on disk for later transmission to mainframe. Replaces keypunches and key-to-disk machines. Data validation.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $495-$1,595

CYBERRESEARCH, INC.

☐ CyberDAS 1 and 2

Integrated local and remote data acquisition. Interfaces transducers, processes data, controls process apparatus and graphs results. Provides real-time graphics, curve fitting, FFT, and Lotus 1-2-3 and RS/1 interfaces.

IBM PC, XT, AT ☐ 384 KB req. ☐ Cost: $1,245-$1,995

☐ PCDAS

General-purpose data acquisition. Controls DAS I/O and set-up functions. Supports specialized routines for thermocouples and chromatography.

IBM PC, XT, AT ☐ Cost: $250-$450

DATA BASED SOLUTIONS, INC.

☐ dValidate

Generates data entry screens and monitors data entry. Validates input data on field-by-field basis. Generates documentation.

IBM PC ☐ 64 KB req. ☐ Copies sold: 301 since 1985 ☐ Cost: $15

DATA CONSULTING GROUP

☐ DATA*EASY Data Entry and Edit

Creates data entry-edit screens and files. Record modes available include add, change, delete, inquiry, search, verify and field duplicate. Accumulates hash totals. Allows 14 fields per record, 64 characters per field and 255 characters per record. Includes file repair utility.

IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $128-$178

DATA NET CORP.

☐ Co-Log

Converts terminal into a communications processor that controls up to 128 DNT 1000 terminals on factory floor. Question and answer configuration sequence, help messages for each question and soft-key driven command-line formation.

IBM PC, XT, AT ☐ 386 KB req. ☐ Copies sold: 30 since 1985 ☐ Cost: $5,000

DATA TRANSLATION, INC.

☐ PCLAB/PCTHERM

Real-time subroutines for Data Translation's IBM PC compatible data acquisition and control boards. BASIC callable macro routine library supports analog and digital I/O for 2801 and 2805 series of plug-in acquisition boards.

IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $249-$349

DATACOPY CORP.

☐ OCR

Optical character recognition. Converts standard business 10 and 12 pitch mono-spaced typestyle to computer code on Datacopy's image/page scanners. Includes 12 typestyles including dot matrix and laser printer. Allows post-formatting for word processing programs.

IBM PC ☐ Cost: $695

☐ OCR Plus

Converts text pages to computer code. Adds ability to train for specific 10 and 12 pitch monospace typestyles to OCR. Trains in manual or batch modes. Works with Datacopy's image/page scanners.

IBM PC ☐ Cost: $995

DATALEX, INC.

☐ Entrypoint

PC-based data entry. Features paint-the-screen design, immediate validation of data, editing, full logic, data management, data output reformatting and multiple screen capability with hierarchical form management. Batch totaling, table look-ups, rekey verification, proof listings and operator statistics.

IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 5,000 since 1981 ☐ Cost: $545

DATASYSTEMS SOFTWARE CORP.

☐ EntryManager

Creates series of screens for data entry and defines edit rules for validation. Collects data. Changes data into new formats to facilitate transmission, retrieval or manipulation. Integrates custom menu shells with operations.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 3,000 since 1983 ☐ Cost: $450-$695

DATRONIC SYSTEMS, INC.

☐ EDE-I

1-3, 1-16, 17-32, 33-48 and 49-64 terminal key-to-disk system. Allows IBM Series 1 or PC to be used as key-to-disk data entry device on on-site and remote basis. EDX applications can be run concurrently with data entry.

IBM PC ☐ 64 KB req. ☐ Copies sold: 15 since 1971 ☐ Cost: $2,400-$19,200

DPX, INC.

☐ RODE/PC

Input validation, automatic reformatting, continual processing, operator statistics, table and file access, modify, verify, append, search and insert functions, 029 keyboard option and validation language.

IBM PC ☐ 256 KB req. ☐ Cost: $595

FLORIDA STATE UNIVERSITY COMPUTING CENTER

☐ Key2Disk

Data entry station driver. Emulates keypunch machine and performs key-punch-like edit checking. Copies, renames files and lists file directory. Creates standard text files which permit interfacing to other programming languages or applications.

IBM PC ☐ 64 KB req. ☐ Copies sold: 50 since 1982 ☐ Cost: $250

JAMES GALLAGHER AND ASSOCIATES

☐ GEN.DE

Program generation screen with 14 line capacity. Up to 120 fields, any number values per field. Permits multiple screens. Checks fields for range, minimum/maximum length and pattern. Duplicates prior field, same field on previous record, any constant and date. Supports columnar format.

IBM PC, XT, AT ☐ Copies sold: 8 since 1980 ☐ Cost: $500

GEMIDEX

☐ GEMIDEX

Data entry with 18 program levels, 99 fields per screen and software-controlled 029 keyboard. Records up to 2,000 characters. Provides record back, forward, delete, insert, global search, batch balance and key verify. Includes 2780/3780 file transfer program.

IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $300-$750

GENERIC COMPUTER PRODUCTS, INC.

☐ Forms-Kit

Data entry kit for terminals. Contains editor to create screen forms. Includes routines to link or merge with user's program. Sequential and random access file structures supported. Provides sample program.

IBM PC ☐ 48 KB req. ☐ Introduced: 1982 ☐ Cost: $50

HAMILTON RENTALS

☐ Micro-DACS

Data acquisition and control. Color graphics with zoom units conversion and data communications. Calculates square fits to functional forms, standard deviations, variance or covariance. Scan frequency, point range, units, labels and control schemes.

IBM PC

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Data Acquisition and Control Adapter

IBM no. 6451-502. Data collection and monitoring for chromatography, electro-chemistry, energy management, electronic testing, process control, data logging and robotics. Monitors pressure, flow, temperature, displacement, voltage, light intensity and rotational speed.

IBM PC, XT, AT, Portable PC ☐ Cost: $1,275

☐ Personal Computer Data Acquisition and Control Adapter Distribution Panel

IBM PC, XT, AT, Portable PC

KAYE INSTRUMENTS, INC.

☐ KVIEW

Industrial process data acquisition reporting and control. Provides real-time, multi-tasking and historical trending with color graphics. Includes 5 levels of analog/contact alarm handling with messages. Utilizes 128 elements to graph valves, boilers, motors, pumps, fans and relay logic symbols.

IBM PC, XT, AT ☐ 640 KB req. ☐ Introduced: 1986 ☐ Cost: $6,500

KEITHLEY INSTRUMENTS, INC.

Instruments Division

☐ Plus 500

Data acquisition. Interfaces IEEE-488 instruments.

IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $595

LAWSON LABS, INC.

☐ PC64

Data logging of up to 64 channels, each with its own label, scaling factors and high/low alarm limits. Linearizations for assorted thermocouples and direct reading in C, F or K. Hi-res stripchart software included. Integrates with Lotus 1-2-3 for data analysis/presentation

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $150

LOGIC, INC.

☐ Data Entry

IBM PC

MCC SYSTEMS, INC.

☐ MicroMAST-MT

Data acquisition and control. Multitasking allows user to run other tasks which can access real time data base.

IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 4 since 1985 ☐ Cost: $5,000

MEGASYSTEMS, INC.

☐ MIDAS (Multitasking Integrated Data Acquisition Software)

Configures IBM PC into data acquisition, monitoring, display and control host station. Offers data base and spreadsheet interface including process graphics display. Optional trendline graphics and report generation.

IBM PC ☐ 640 KB req. ☐ Introduced: 1985

METRABYTE CORP.

☐ Interface Utility Software

Provides calibration, data logging, strip chart recorder, graphics and polynomial linearization routine. Assembly driver for writing custom applications for boards.

IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $25

OCR SYSTEMS, INC.

☐ Optical Character Recognition

Inputs typewritten documents into computer in word processor format. Reads documents with up to 23 fonts on a single page. Supports underlined or boldface text and multiple page documents. Writes text in Wordstar or ASCII formats.

IBM PC, AT ☐ 384 KB req. ☐ Introduced: 1986 ☐ Cost: $495

PENCEPT, INC.

☐ Penform

Creates and uses business forms for data entry in conjunction with Lotus 1-2-3 and most data base systems.

IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $195

RAPID SYSTEMS

☐ Data Acquisition Software

User-definable software interface to Rapid Systems' R400 data acquisition hardware.

IBM PC, XT, AT ☐ Cost: $99

SEMI-CUSTOM SOFTWARE

☐ Data Collection

Allows designers to control sequence and wording of questions, lists of answers and up to 4 screens of user aids. Includes real-time edit checking, encoding and logical branching. Handles hierarchically structured information.

IBM PC ☐ 256 KB req. ☐ Cost: $2,000-$9,000

SIERRA/MISCO, INC.

☐ 5073E Enhanced Alert

Environmental data acquisition and control system. Collects data from sensor types, performs data quality control, manages current data base, and provides alarms, analysis, forecast and control functions. Receives and files data from rain, river level and weather stations. Includes graphics.

IBM PC, XT ☐ 512 KB req. ☐ Copies sold: 20 since 1984 ☐ Cost: $3,000

SOFTWARE CONSULTING SERVICE, INC.

☐ SIDES/PC (Personal Computer Version of Series/1 Data Entry)

Menu-driven data entry system. Provides screen builder with 20 field edit options. Includes operator statistics. Heads-down data entry supported.

IBM PC, XT, AT, 3270-PC ☐ 128 KB req. ☐ Copies sold: 700 since 1984 ☐ Cost: $199 and up

SOLUTION TECHNOLOGY, INC.

☐ AdvanTex

Imparts OCR capabilities to scanners. Converts scanner into intelligent page reading translator. Reads multiple typefaces and sizes on printed page. Translates/recognizes symbols, diagrams and foreign languages. Compatible with WordStar, Volkswriter and Microsoft Word. Requires Graphics card.

IBM PC, AT ☐ 512 KB req. ☐ Cost: $1,500

SOUTHERN COMPUTER SYSTEMS, INC.

☐ KeyEntry III

Data entry system for PCs. Handles entry, validation, editing, searching and verification. Provides heads-down high-speed production entry and heads-up phone-order and casual entry operations. Includes multiple display formats, multiple record types, table/file look-up, columnar/partial entry modes, two-pass verification and operator statistics.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $395-$895

☐ Radar-II

Data entry system with range of entry, searching, verification and editing. Includes multiple key entry, specific constants, auto/manual duping, range checks, multiple record formatting and mass edit. Modes for high-speed and casual entry.

IBM PC ☐ 128 KB req. ☐ Copies sold: 2,700 since 1980 ☐ Cost: $395-$695

SPECIALIZED DATA SYSTEMS, INC.

☐ GEMIDEX Operator

Data entry/application development, key verify, output reformat, file transfer, batch balance, value tables, check digits, operator statistics, 99 fields per screen and 18 screens or program levels per job. Enters data for jobs built by GEMIDEX Supervisor.

IBM PC ☐ Cost: $300

☐ GEMIDEX Supervisor

Data entry/application development with key verify, output reformat, file transfer, batch balance, value tables, check-digits, operator statistics, 99 fields per screen and 18 screens or program levels per job. Builds screens. File transfer and data entry.

IBM PC

SPERRY CORP.

Information Systems Group

☐ DCR (Data Capture and Retrieval)

Allows Sperry PC to operate as data entry system. Functions include enter, verify, format, directory, delete, output, report and interface to UNIX-based applications.

IBM PC

SPSS, INC.

☐ PC+ Data Entry

Option to PC+. Designs data entry forms on screen. Creates system files. Allows data to be entered in spreadsheet-like format. Provides cleaning features for data integrity. Sets logical conditions data must meet. User can view/edit existing files. Detects problems in existing data.

IBM XT, AT ☐ 384 KB req.

STRAWBERRY TREE COMPUTERS

SEE AD ON PAGE 230

☐ Analog Connection

Data acquisition and control. Accepts analog inputs with up to 16-bit resolution. Logs data to disk. Controls digital outputs. Sounds alarms. Displays data. Logged data compatible with spreadsheets including Lotus 1-2-3. Allows simultaneous data collection/analysis with DoubleDOS and Microsoft Windows. Menu-driven.

IBM PC, XT, AT ☐ 48 KB req. ☐ Introduced: 1983 ☐ Cost: $490-$2,190

TAURUS COMPUTER PRODUCTS, INC.

☐ TSOFT

Data acquisition and process control. Configuration table, editing program and BASIC callable I/O device routine. Records all I/O points and tracks control and processing options for each analog, digital and counter point/channel.

IBM PC ☐ 256 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $565

The Answer to your Debugging Problems

ICD286

At last! An 80286 emulator which is affordable, compact, and easy to use.

FAST—Full speed, real-time emulation up to 10 Mhz.

AFFORDABLE—From $2400 to $5400, depending on options.

EASY TO USE—On-line HELP with a screen oriented display.

KEY FEATURES:

- Hardware and software breakpoints
- 2048 bus cycles of real-time trace
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IDEAL for development, debugging, testing, and field service.

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Cupertino, CA 95014
(408) 253-7515

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CIRCLE NO. 214 ON READERS SERVICE CARD

VERMONT CREATIVE SOFTWARE
☐ Windows for Data
Provides control over screen display and entry of data within a flexible windowing environment. Includes pop-up data entry windows, conversion to all variable types, lotus-style menus, field-specific and context-sensitive help, and data validation functions.
IBM PC, XT, AT ☐ Copies sold: 1,000 since 1985 ☐ Cost: $295

VIKING SOFTWARE SERVICES, INC.
☐ VDE (Viking Data Entry System)
Full screen data entry used with video display terminals to key enter data. Ensures data accuracy with editing and rekey verify.
IBM PC ☐ 15 KB req. ☐ Copies sold: 400 since 1981 ☐ Cost: $600

WANG LABORATORIES, INC.
☐ PC Micro Focus Forms-2
Creates data entry forms.
IBM PC ☐ Cost: $150

DEBUGGING & TESTING

A. K., INC.
☐ TRACE
Debugger/emulator for IBM 370 type programs. Simulates execution of programs plus path lengths. Prints condition code, branches taken, instruction address, instruction mnemonic, instruction in machine, contents of involved registers and contents of storage areas.
IBM XT/370, AT/370 ☐ 20 KB req. ☐ Copies sold: 5 since 1972 ☐ Cost: $595

ANSWER SOFTWARE CORP.
SEE AD ON PAGE 336
☐ RBUG86
Displays/modifies memory and I/O ports. Supports dual display adaptors and external terminal or uses screen swapping to preserve application display. Loading/symbolic support for PCDOS, PLINK86, and Intel object formats. Symbolic assembler/disassembler, macros, command/macro execution on breakpoints, floating point, EGA and EMS support.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $395

AWARD SOFTWARE, INC.
☐ CROSS-CHEX
Diagnostic test for data and computers. Visual feedback on eight tests. Runs diagnostics on diskette drives, Winchester disk, video display, RAM memory, video memory, ROM character generator, printer and keyboard.
IBM PC, AT, XT ☐ 128 KB req. ☐ Copies sold: 2,500 since 1984 ☐ Cost: $99

☐ PC/DOS-Test
Validates computer's design and OS implementation for PC compatibility.
IBM PC, XT, AT ☐ Copies sold: 25 since 1983 ☐ Cost: $11,000-$22,000

AWARECO
☐ Active Trace
BASIC development tool, debugger and learning aid. Variables and functions followed and displayed, with current value and line number on screen, printer or disk. Disk file combines with word processor to find source of error and display circumstances surrounding occurrence.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,500 since 1983 ☐ Cost: $80

CIPHERLINK CORP.
☐ Any/QA
Enters test data into application to review performance and accuracy. Tests terminal emulation, screen handling and keyboard manipulation. Prepares audit trails and documentation of screen output and Any-generated keyboard input.
IBM PC ☐ 640 KB req. ☐ Copies sold: 3 since 1985 ☐ Cost: $8,950

CITADEL COMPUTER CORP.
☐ CMX-900
ROM resident general purpose monitor and debugging utility configured for CMX-820 80C88 CPU. Upload/download capability for system testing and development. Access memory and I/O ports. Map system configuration. Breakpoints and TRACE support.
IBM PC ☐ 256 KB req. ☐ Cost: $200

COMPLETE SOFTWARE, INC.
☐ CDÉBUG
C-language debugger.
IBM PC ☐ Cost: $300

COMPUTER INNOVATIONS, INC.
☐ C1 PROBE
For use with C-86 C Compiler. Single-step traces through C and Assembly codes. Full macros. Sets breakpoints. Views and/or alters C variables during execution. Breaks into program while debugging. Offers source code windows while stepping through code. Configures symbol tables or source window sizes.
IBM PC ☐ 192 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $225

CONCURRENT SCIENCES, INC.
☐ Hard-Scope
Interactive, source-level, symbolic debugging tool which accelerates software development on hardware target system. Accesses program variables and Assembly level debugging. Source code interface and on-line listings.
IBM PC, XT, AT

☐ Soft-Scope
Source-level debugger. Uses symbolic references to examine and test code. Supports 8087 Numerical Data Processor. Inserts breakpoints at machine addresses, line numbers and execution labels.
IBM PC, XT, AT ☐ Cost: $500-$995

CYBERNETIC MICRO SYSTEMS
☐ Simulator/Debugger for IBM PC
Executes and debugs code for single chip microcomputers.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $295-$995

DATA BASE DECISIONS
SEE AD ON PAGE 337
☐ Periscope
Reviewed Jan 85 p. 88; Jan 86 p. 29; Mar 86 p. 65.
Memory-resident symbolic debugger. Model I includes breakout switch and write-protected RAM board for crash recovery. Model II contains breakout switch for spontaneous debugging. Model II-X contains software only.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $118-$298

DATA BASED SOLUTIONS, INC.
☐ dCRef
Writing/debugging for dBASE II, dBASE III, and dBASE III+ program files in paginated listings. Cross-reference of variables by name contained in dBASE II files.
IBM PC ☐ 64 KB req. ☐ Copies sold: 610 since 1983 ☐ Cost: $15

DUBERT INTERNATIONAL, INC.
☐ Atlas Syntax Verifier
Identifies and corrects syntax in accordance with IEEE Std 716-1982 C/Atlas test language. Activates verifier as statements are created on keyboard. Enables verification of large foreign files. On-screen prompting flags error.
IBM PC ☐ 256 KB req. ☐ Copies sold: 16 since 1985 ☐ Cost: $400

Here's why you should choose Periscope as your debugger...

You'll get your programs running fast.

"It works great! A problem we had for three weeks was solved in three hours," writes Wade Clark of MPPi, Ltd.

You'll make your programs solid.

David Nanian says, "I can't live without it!! BRIEF, a text editor my company wrote, would not be as stable as it is today without Periscope."

You'll protect your investment.

We won't forget you after the sale. You'll get regular software updates, including a FREE first update and notice of later updates. You'll get technical help from Periscope's author. And you'll be able to upgrade to more powerful models of Periscope if you need to. One Periscope user writes, ". . . your support has won over even the heart of this hardened programmer!"

PERISCOPE

The Periscope Company, Inc.

(Formerly Data Base Decisions)

14 Bonnie Lane, Atlanta, GA 30328, 404/256-3860

You deserve the best.

Thousands of programmers rely on the only debugger that PC Tech Journal has ever selected as **Product of the Month** (1/86). You owe it to yourself to find out why, first hand.

You can try it at no risk.

You get an unconditional 30-Day, Money-Back Guarantee, so you can't lose.

Start saving time and money now — order toll-free, 800/722-7006.

Use MasterCard, Visa, COD, or a qualified company purchase order. As one user puts it, Periscope is "one of the rare products, worth every penny!"

Periscope I, software, manual, protected memory board and breakout switch	$295
Periscope II, software, manual, and breakout switch	$145
Periscope II-X, software and manual	$115

Add shipping - $3 US; $8 Canada; $24 elsewhere. Ask about air shipment if you can't wait to get your programs up and running!

P.S. Watch for Periscope III, the new hardware-assisted debugger with real-time traceback and breakpoints! Available December, 1986.

CIRCLE NO. 285 ON READERS SERVICE CARD

FIRST SYSTEMS CORP.

☐ MicroSCOPE Debugger
Source level symbolic cross debugger. Permits direct connection of real-time target systems to IBM RT. Processes Intel object module formats for compatibility with in-circuit emulators.
IBM RT

JOHN FLUKE MANUFACTURING CO., INC.

☐ TechproPC Tester
For use with Fluke's 9005A or 9010A Micro-System Troubleshooter and 8088 Microprocessor Interface.
IBM PC ☐ Cost: $1,500

GENESIS MICROSYSTEMS

SEE AD ON PAGE 373

☐ APXLOD
Uses Intel SBC-957 monitor to debug target system.
IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $450

☐ GeneScope/PC
Reviewed Jan 1985 p. 88.
Macros, on-line assembly, disassembly and trace with scrolling, simultaneously supporting separate screens for debug and source-file viewing during debug session.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1985 ☐ Cost: $8,995

GIMPEL SOFTWARE

☐ PC-Lint
Diagnostic facility for C programming language. Reports on bugs, glitches and inconsistencies. Supports K&R C and ANSI extensions. Supports user-modifiable library definition files for most major compilers. Turns messages on and off, globally and locally.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2,500 since 1985 ☐ Cost: $139

GRID SYSTEM CORP.

☐ Debug
Uses Grid User Interface commands, windows and menus. Symbolically displays and modifies structured array and record variables. Sets breakpoints at program statement numbers and displays status information about application tasks.
IBM PC

HEWLETT-PACKARD CO.

☐ Diagnostics
Designed to check out all system functions.
IBM PC

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ COBOL Interactive Debug XT/370
IBM no. 5734-CB4/01.
IBM XT/370

☐ FORTRAN VS Interactive Debug XT/370
IBM no. 5668-903/01.
IBM XT/370 ☐ Cost: $1,152

☐ Professional Debug Facility
Reviewed Mar 1985 p. 60.
IBM no. 6024-143. Realtime interrupt capability with Non-Maskable interrupt (NMI) card and four types of windowing including trade, disassembly, memory display and co-processor. Dual full-screen support for color and monochrome displays.
IBM PC, XT, AT, Portable PC ☐ 128 KB req. ☐ Cost: $150

IBM PERSONALLY DEVELOPED SOFTWARE

☐ DOS Enhanced Debug
IBM PDS no. 6276-594. Assists in developing programs. Provides full-screen environment for monitoring and controlling program execution. Displays and alters memory, code or any register. Runs all or part of any program to help diagnose any problem. Monochrome and color EGA support.
IBM PC, XT, AT, Portable PC, PCjr ☐ 128 KB req. ☐ Cost: $25

INTEL CORP.

☐ ICE (In-Circuit Emulators)
Reviewed Jan 1985 p. 88.
Aids in shortening hardware/software debug and integration phases of projects.
IBM PC

☐ PScope, DOS PScope, XENIX PScope-286, iRMX PScope-86
Traces execution at statement, procedure, source or machine instruction level. Makes source patches using HLL-like syntax and creates debug macros.
IBM PC ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $800-$1,400

LATTICE, INC.

SEE AD ON PAGE 279

☐ C-Sprite
Symbolic debugger. Features help screens, macro capabilities, command files, conditional commands, and debugging through communications port and support for PLINK86 overlays.
IBM PC ☐ 128 KB req. ☐ Cost: $175

MCGRAW-HILL CCIG SOFTWARE

☐ X-VIEW 86
Software analyzer. Profiles internal operations of each application. Identifies execution hotspots, program segment usage, system memory map references, I/O port calls, software interrupt calls and instruction set usage. Requires PC DOS Debug or MS-DOS Debug.
IBM PC, XT, AT, PCjr ☐ 30 KB req. ☐ Cost: $60

MERIDIAN SOFTWARE SYSTEMS, INC.

☐ C Debugger
Source level debugger for use with C compiler. Supports conditional breakpoints, subprogram traces, single stepping and full C variable reference syntax.
IBM PC

☐ Pascal Debugger
Source-level debugger for use with Pascal compiler. Supports conditional breakpoints, subprogram traces, single-stepping and full Pascal variable reference syntax.
IBM PC

MICRO-SOFTWARE DEVELOPERS

☐ Cdebugger
Source-level debugger for Lattice C, Microsoft C and Computer Innovation C89. Sets, displays and deletes multiple breakpoints on C line level. Sets execution trace on function, C line and machine instruction level. Displays or sets memory registers. Disassembly.
IBM PC, AT, 3270 PC ☐ 256 KB req. ☐ Cost: $165

MICROPLOT SYSTEMS

☐ UnPlot
Reads picture files saved using PC-PLOT and interprets Tektronix 4010 commands. Prints commands in terms of move to X, Y and draw to X, Y. Prints control codes. Diagnoses system problems.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $40

MICROTEC RESEARCH, INC.

SEE AD ON PAGE 304

☐ Symbolic Debuggers
Interactive debugging tool for microprocessor programs. Executes object modules of target microprocessor, interactively or in batch mode, in host development system controlled environment. Performs interpretive execution of microprocessor's object modules by implementing, in software, registers and logic functions of each processor.
IBM PC ☐ 64 KB req. ☐ Introduced: 1975

MICROTECH INTERNATIONAL

☐ Bug Zapper
Hardware/software debugging tool.
IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $195

MICROWAY, INC.

SEE AD ON COVER 3

☐ 87 Verify
Verifies 8087 accuracy. Performs stress test which causes errors when 8087 environmental problems including overheating, inadequate decoupling or low voltage occur.
IBM PC, XT, AT ☐ Cost: $49

☐ 87Debug
Debugger with 8087 support. Displays and sets 8087 registers. Displays and enters real numbers stored in memory. Traces user's own commands. Avoids tracing through subroutine calls and interrupts. Sets breakpoints in code or on guarded addresses.
IBM PC ☐ 128 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $150

MORGAN COMPUTING CO., INC.

☐ Advanced Trace86
Symbolic debugger and Assembler interpreter. Traces execution of compiled program. Programs specific conditions for breakpoints. Directly edits in Assembly and saves code as .com or .exe file.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $175

☐ Trace86
Reviewed May 1984 p. 110.
Disassembler trace debugging tool. Toggles between program output and constant display of machine registers, flags, stack, address calculations, data in memory and the 8088 Assembler version of object.
IBM PC, AT, XT, PCjr ☐ 128 KB req. ☐ Copies sold: 2,500 since 1983 ☐ Cost: $39

PECAN SOFTWARE SYSTEMS, INC.

☐ Symbolic Debugger
IBM PC, XT, AT ☐ Cost: $50

PERENNIAL

☐ C Compiler Validation Suite
Tests functions of C compiler according to The C language, Kernighan and Ritchie and ANSI C Standard. Library, compile time, link time and execution time tests. CPU utilization for each test case.
IBM PC ☐ 1,000 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $10,000

PHOENIX COMPUTER PRODUCTS CORP.

☐ Pfix86 Plus
Multi-window symbolic debugger with breakpoint and trace facilities. Source code and Assembly language translations displayed.
IBM PC, XT, AT ☐ Cost: $395

QUINCY STREET CORP.

☐ PPS (Personal Programming System)
Produces test programming. Permits simultaneous test program development by multiple users. Includes tools for preparation, analysis, syntax checking and documentation. Downloads/executes programs and images when used with GenRad 2225 or 2235 testers.
IBM PC ☐ 512 KB req. ☐ Copies sold: 6 since 1985 ☐ Cost: $5,995

RAYTRONICS

☐ PC-DEBUG
Loads and runs any DOS-compatible exe program. Assigns stock size during load. Examines, modifies and sets breakpoints for any loaded program. Disassembly and trace facilities. 10 breakpoints with multiple passes.
IBM PC ☐ 8 KB req. ☐ Cost: $95

RDT SOFTWARE

☐ **Bugscreen**
Reviewed Jan 1985 p. 88.
Symbolic debugger for Assembly programming language. Provides windows for source listing, registers/flags, stack and selected memory. Highlights changes on screen. Interrupts execution on checkpoint conditions. Allows debugging at source level. Displays data as decimal, hex or character.
IBM PC, XT ☐ 64 KB req. ☐ Cost: $95

REAL-TIME COMPUTER SCIENCE CORP. (RTCS)

☐ **PC957**
Debug monitor firmware for Intel SBC. Works with PCSBC and RTCS/UDI.
IBM PC ☐ Copies sold: 860 since 1983 ☐ Cost: $750

SDD, INC.

☐ **DCATS (Data Communication Applications Test System)**
Tests on-line application software residing in mainframe, intelligent workstation, message switch and cluster controller. Result verification.
IBM PC ☐ 320 KB req. ☐ Copies sold: 30 since 1983 ☐ Cost: $75,000

SLT, INC.

☐ **PC Doc**
Diagnostic tool for troubleshooting motherboard faults to component level. Provides 3-trace digital scope. Tracks diagnostic work by work order number. Maintains data base of previously repaired computers.
IBM PC, XT

SOFTADVANCES

☐ **DSD86 (Dynamic Screen Debugger)**
Debugging tool with user interface. Overlapping windowing system. Supports source level debugging and handles FORTRAN, C and Pascal. Offers symbolic memory, register and stack displays. Reads MAP files for symbol information. Command interface capabilities include control flow, macros and configurable keyboard.
IBM PC ☐ Cost: $70

☐ **DSD87 (Dynamic Screen Debugger)**
Source level debugging. Overlapping windowing system. Offers symbolic memory, register and stack displays. Command interface capabilities include control flow, macros and configurable keyboard. Supports 8087 numeric coprocessor. Shows current state of coprocessor's flags and floating point registers to 18 digits of precision.
IBM PC ☐ Cost: $100

SOFTWARE DEVELOPMENT FACTORY

☐ **dBFind**
Designed to find bugs in dBASE command files. Lists syntax errors. Generates cross and single module cross references.
IBM PC ☐ 128 KB req. ☐ Cost: $99

SOFTWARE RESEARCH ASSOCIATES

☐ **CapBak**
Keystroke capture and playback system. Capture and playback modes can be used simultaneously.
IBM PC, XT, AT ☐ 15 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $575

☐ **IBM PC BASIC Validation Test Suite**
Interpreter/compiler validation. Tests include versions of NBS Minimal BASIC Test Suite. Tests confirm standard language capabilities, analyze end cases and identify significant exceptions for language features.
IBM PC ☐ Copies sold: 10 since 1984 ☐ Cost: $4,500

☐ **O-Scope**
Visual and dynamic display of test trace files. Requires SRA-built software instrumentation system such as TCAT/C or TCAT/Pascal.
IBM PC, XT

SOURCEVIEW SOFTWARE INTERNATIONAL

☐ **Interactive Evaluation**
Evaluates software quality using 16 criteria. User compiles data base of criterion oriented responses, numerical ratings are then calculated. Summarizes scores from several raters statistically.
IBM PC ☐ Cost: $99

SYSTEMS & SOFTWARE, INC. (CA)

☐ **SoftProbe/PC**
Debugger for PC application software that operates on multi-user host development system while controlling and monitoring program execution on PC.
IBM PC ☐ Cost: $4,750

VISUAL AGE

☐ **CodeSmith-86**
Reviewed May 1984 p. 110; Jan 1985 p. 88.
Multi-window symbolic debugger. Full-screen 8086/88/186 machine language disassemblies can be scrolled through, commented, searched and breakpointed. Built-in multi-line patching symbolic assembler. AutoBrowse window allows single-stepping of high-level source code.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $145

WALLSOFT SYSTEMS, INC.

☐ **dFlow**
Speeds debugging of dBASE systems. Reads source PRG files and produces flow diagrams. Cross references all modules in system. Builds variable concordance.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $129

WORDTECH SYSTEMS, INC.

SEE AD ON PAGE 321

☐ **dB/Debugger**
For dBASE II programs. Compatible with WordTech's dB Compiler syntax. Sets execution breakpoints by file and line or executes a file line by line. Diagnostics and on-line help menu.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $240

DISASTER RECOVERY

CHI/COR INFORMATION MANAGEMENT, INC.

☐ **Recovery/1**
Maintains disaster recovery plan. Relational data base design. Accesses/stores company and personnel profiles, equipment forms, recovery teams and action plans. Forms-oriented data entry. Project management orientation. User-defined reporting.
IBM PC

EDP SECURITY, INC.

☐ **Disaster Plan/80**
Provides structure for development, implementation, maintenance and testing of EDP disaster recovery plan.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,000 since 1979

EXECUTIVE COMPUMETRICS, INC.

☐ **Model Disaster Recovery Plan**
Plan for coordinated off-site processing of central site on-line and batch processing after total loss of normal data processing services. Time-sequenced decision points. Fill-in-the-blank format for custom-tailoring and maintenance. Multiple data forms, check lists, and keyword indexing.
IBM XT, AT ☐ 256 KB req. ☐ Copies sold: 8 since 1984 ☐ Cost: $7,000

MECTEL INTERNATIONAL, INC.

(division of American Mitac Corp.)

☐ **Playback**
Data recovery system that protects WIP from accidental loss. Makes video tape of work. Replays entries at fast, slow or character-by-character speed. Features auto mode. Plays back work once or continuously and can serve as demonstration tool.
IBM PC, PCjr, XT, AT ☐ 64 KB req. ☐ Cost: $50

ROBERT L. NICOLAI

☐ **BASIC Program Mender**
User can reconstruct and rewrite lost files. Reads tokenized BASIC file or protected file.
IBM PC ☐ 64 KB req. ☐ Copies sold: 5 since 1986 ☐ Cost: $20

SOFTWARE INTEGRATION, INC.

☐ **Bakup**
Reviewed Mar 1986 p. 78.
Backs up, restores and manages information transferred from hard disk of IBM PC or compatible. Creates catalog data base containing directory information needed to restore any or all versions of changed files. Prints management reports that document what has been backed up, where and how frequently.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 26,000 since 1984 ☐ Cost: $180

TAMP COMPUTER SYSTEMS, INC.

☐ **DRS (Disaster Recovery System)**
Methodology including generic procedures, questionnaires, interoffice memos, external letters and all instructional information necessary to complete disaster recovery project. Formatted disaster recovery plan.
IBM PC ☐ 256 KB req. ☐ Copies sold: 5 since 1986 ☐ Cost: $7,500

DISK/TAPE/FILE UTILITIES

A & T SYSTEMS, INC.

☐ **DMS (Disk Management System)**
Disk and file management. Recovers lost data. Locates/reorganizes information. Realigns fragmented files. Customizes file attributes. Ensures file readability. Erases file or group of files. Executes applications. Browses and edits hex information. Performs rename, search, sort and wipe.
IBM PC, XT, AT ☐ Cost: $99

ACS

☐ **Flirt**
Fixed-length file editor evaluates and corrects data files. Examines files for consistent fields and field lengths and corrects records. Allows user to edit or create files and add records.
IBM PC ☐ 64 KB req. ☐ Cost: $295

AIMS+PLUS, INC.

☐ **Datatools**
Data file and disk management utilities. Add-on module for AIMSPLUS. Functions include purge and migrate, AIMS tools, disk copy and maintenance. Performs search, sort and batch update.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $800-$1,000

☐ **Printools**
Allows data from multiple files and records within file to be combined and printed in one of several report formats. Combines 69 records on single report page. Prints information from several files at once. Performs math calculations while printing.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $800-$1,000

A. K., INC.

☐ **UTIL**
Data file handler for data base processing, mailing lists, letters, labels and other preformatted material. English-like commands retrieve and print data records, or copy and reformat them onto another file.
IBM XT/370, AT/370 ☐ 40 KB req. ☐ Copies sold: 4 since 1972 ☐ Cost: $595

ALLIED COMPUTER GROUP, INC.

☐ DOS Partner
Features include flagging individual or group files for copy and deletion, changing attributes of files, viewing files in either direction and sorting user's directory. Hides and protects valuable files.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $40

ALPHA LOGIC BUSINESS SYSTEMS, INC.

☐ Locksmith/PC
Bit copier backs up copy protected software. Edits disk track sector, file and directory. Features file encryption, decryption, restoration, disk recovery, creation of protected diskettes and search replace of data.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 4,000 since 1985 ☐ Cost: $80

ARMOR SYSTEMS, INC.

☐ Excalibur Plus Import Data Utility
Accepts standard ASCII files containing unlimited amounts of data. Lets user design templates which import data desired for Excalibur Plus IC, AR, AP and customer information/data base management applications.
IBM PC

ASTRO CORP.

Information Technology Division

☐ SCAN
System management tool for disk and file maintenance.
IBM PC ☐ 64 KB req. ☐ Copies sold: 3,000 since 1981 ☐ Cost: $99

AVCOM, INC.

☐ Safe-Gard Disk Security System
IBM PC, XT

AWARD SOFTWARE, INC.

☐ Crossave
File utility. Copies and restores data from/to Winchester disks to floppy diskettes when file is larger than capacity of floppy diskette. Operates as file backup, or as backup/restore for contents of entire Winchester disk.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $99

BOS NATIONAL, INC.

☐ Tape Dump Restore
IBM PC, XT, AT ☐ Cost: $100

BROWN BAG SOFTWARE

(division of Software Resource Group)

☐ File Recovery System
File recovery with drive management, full-screen editor and control functions. Changes file's attributes and disk labels, modifies screen color and locates lost file.
IBM PC ☐ 128 KB req. ☐ Cost: $70

BUSINESS-PRO

☐ SAV KEY
Backup utility for IBM and compatible hard disk computers. Keeps track of backups by type, date, time and location. Produces reports for backup accountability control. Includes preprinted labels, status reports and restore feature.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $90

C SOURCE, INC.

☐ EC
Multiple files, print formatting, DOS interface, paths, keystroke macros, file merge, screen-handling, search/replace, word-wrap and reformatting. Reads WordStar document files. Supports dBASE II files. Customizable on-line menu reference system. Saves and reloads editing environment.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $50

CALIFORNIA SOFTWARE PRODUCTS, INC.

☐ BackPak
Backs up and restores hard disk data on PCs. Copies and reports new or modified files since last backup. Indicates how many fresh diskettes are required for new data. Formats diskettes. Verifies correct copying. Includes California 10 Pak and DOS shell.
IBM PC ☐ 256 KB req. ☐ Copies sold: 109 since 1985 ☐ Cost: $175

CENTRAL POINT SOFTWARE

☐ Copy II PC
Disk backup utility. Uses all available memory to make archival backups of most protected software with no parameter changes. Includes drive speed check and bulk erase. Runs business programs from hard disk without inserting their original in drive A.
IBM PC ☐ 64 KB req. ☐ Copies sold: 220,000 since 1983 ☐ Cost: $40

☐ PC Tools
Memory resident utility. Includes undelete files, search disk for file, search file for text, view/edit any sector on disk.
IBM PC ☐ 64 KB req. ☐ Copies sold: 15,000 since 1985 ☐ Cost: $40

CHALCEDONY SOFTWARE

☐ Scout
Memory resident disk directory utility. Controls directories and printers without leaving working program. Features pop up windows. Formats floppy disks from within resident programs. Removable from memory without rebooting.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $50

CHANNELMARK

☐ Disk Quick
Optimizes disk performance by re-assembling fragmented files.
IBM PC ☐ Cost: $60

☐ FileClerk
Saves up to 500 files in single master for archival purposes.
IBM PC ☐ Cost: $50

☐ Retriever
Builds index of every character in data file to aid searches from 3 to 45 Character strings.
IBM PC ☐ Cost: $80

CIVILSOFT

(division of The Technical Group, Inc.)

☐ Collect
Transfers files collected with field data collectors to COGO-PC and COGO-80/86 file formats. Requires Lietz SDR2, Wild GRE3, Nikon DR-2 or Topcon FC-1 field data collectors.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $290

COGITATE, INC.

☐ COGTREE Utilities
Hard disk backup. Consists of cogtree.exe, cogdir.exe, cogbkup-.exe, cogrstr.exe, cogbatch.exe and cogx.exe. Provides graphic tree display. Performs directory search and selection. Packages commands or batch commands to single file.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 800 since 1984 ☐ Cost: $130

COLORCORP

☐ ColorBIZ PC-Saver
Insures clean drives and diskettes.
IBM PC ☐ Cost: $15

COMPUTER SYSTEMS CONSULTANTS

☐ Disk and Basic Utility Programs
Disk utility programs for 6809 FLEX. Locates strings in and edits disk sectors interactively. Tests diskettes for CRC errors/bad links. Linearizes free list. Sorts, rewrites, lists and accumulates disk catalogs. Resequences some or all of BASIC programs.
IBM PC ☐ Cost: $50-$100

CONCEPTUAL SOFTWARE, INC.

☐ Prodas/Standalone
Required to obtain power of PRODAS/Statistics and/or PRODAS/Graphics without PRODAS/DATABASE. Reads and writes disk files from other products and transfers them into PRODAS data base and processes them. Exports reports by transfering generated PRODAS data base into data file for target system.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $110

CORE INTERNATIONAL

☐ Gigafile
Stretches files and/or directories to 1 GB. Allows files to expand across 8 physical storage devices. Accommodates 100,000 grid pages and 10,000 squares per page. Requires Core International's 40, 56 or 72 MB drives.
IBM PC, AT

COUGAR MOUNTAIN SOFTWARE

☐ LYNX
Data file translator reads into or out of CMS's files.
IBM PC ☐ Copies sold: 500 since 1983 ☐ Cost: $495

CYAN CO., INC.

☐ RPCE Software
Reads perforated tape into PC, punches tape from PC, verifies tapes against one another and supports tape editing. Sets user-defined RS232C parameters. Converts to and from ASCII format.
IBM PC, XT, AT ☐ Cost: $895

CYBERENGINEERING CORP.

☐ CyberTools Disk Utilities Library
COM file sets default drive. Disk cleaning exerciser. Inspects and patches sectors. Patches to Diskcopy for production copying. Disk cataloging. Examines and modifies directories. Creates batch file for copying files. RAM and electronic disk support. Directory manipulation. Tests disk drive.
IBM PC

☐ CyberTools Files Utilities Library
DOS file maintenance and modification. Changes file attributes. Converts EXE and COM files to ASM. Squeezes hex files. Catalogs and prints diskette labels. Sorts directory. Compares 2 directories and listing file. Inserts/deletes CR and LF in files.
IBM PC

DATA CONSULTING GROUP

☐ DATA*EASY PC File Utilities
Displays, prints or edits user data files. Compresses files, displays diskette contents, deletes files or records, displays data in 4 formats, changes function keys and displays ASCII graphics characters. Lets user set up printer fonts and features.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $48

DESIGN SOFTWARE

(division of Design Systems, Inc.)

☐ DSBackup
Reviewed Mar 1986 p. 78.
Screen oriented backup/restore utility which can work to/from any logical DOS device. Not copy protected.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10,000 since 1985 ☐ Cost: $70

DIGITAL PATHWAYS, INC.

☐ Disk P.M. (Disk Preventative Maintenance)
Diagnoses and condenses hard disks.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $50

DUTCHTREAT SOFTWARE, INC.

☐ Files
Dual-window display of files. Sorts a directory four ways. Forward and backward paging. Directory and attribute control.
IBM PC ☐ 128 KB req. ☐ Copies sold: 400 since 1985 ☐ Cost: $50

DYMEK CORP.

☐ Rid-A
Evaluates 7 operational parameters to determine disk drive ability to function within manufacturer's specifications and interchange data with similar systems.
IBM PC

DYNACOMP, INC.

☐ DFILE
Diskette organizer. Locates any file or program. Each diskette assigned 4-character ID. List of files maintained on diskette. Maintains data base. System used on single/double density and single/double-sided drives.
IBM PC ☐ 8 KB req. ☐ Cost: $20

DYSAN CORP.

☐ Interrogator
Reviewed May 1985 p. 142.
Drive diagnostics and analysis. Evaluates performance of computer's disk drives without need to disassemble machine or use other test equipment. Checks read/write head alignment, ability to read and write without errors and drive's spindle speed. Manual/drive testing.
IBM PC, XT ☐ 48 KB req.

ELITE SOFTWARE DEVELOPMENT, INC.

☐ Best Friend
Allows DOS commands to be single key menu selections. File services include copy, delete, rename, view, sort and spool files. Disk services include format, copy and compare disks. I/O options, printer output redirection, typewriter and scientific/business calculator. Pops up behind application program.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,500 since 1985 ☐ Cost: $85

☐ P-File
Routes printer output to disk file. Applications programs that usually only print reports to printer can now print reports directly to disk.
IBM PC ☐ 56 KB req. ☐ Copies sold: 800 since 1983 ☐ Cost: $49

☐ P-SPOOL
Prints contents of file while other program is being used.
IBM PC ☐ 56 KB req. ☐ Copies sold: 750 since 1983 ☐ Cost: $29

☐ PC-Sweep
Single keystroke commands include copy, rename, delete, sort, view, print and tag. Displays drive directory. Protects user from invalid drive designators. Displays disk parameter information and tagged and untagged files.
IBM PC ☐ 56 KB req. ☐ Copies sold: 650 since 1984 ☐ Cost: $49

ELLIAM ASSOCIATES

☐ BOBCAT 3
Catalogs disk files. Records disk number, user area or subdirectory, and file name, type and size. Additional file or disk information can be added. Prints all or select portion of catalog in various formats.
IBM PC ☐ 48 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $50

ELLICOTT SOFTWARE, INC.

☐ DataCare
Backs up hard disks to diskettes to protect against hard-disk failures. Backs up just-changed files. Ensures diskettes' integrity through 3-way verification. Controls re-use of diskettes. Maintains diskettes catalog.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 600 since 1985 ☐ Cost: $99

EMERALD SYSTEMS CORP.

☐ TIE (Tape Import/Export)
Downloads data from mainframe tape off line. Converts to ASCII, Lotus 1-2-3, dBASE III, DIF and CSV. Allows preselection of download data.
IBM PC, AT

ENSIGN SOFTWARE

☐ Electronic Disk
Creates equivalent of disk drive in excess memory. Memory drive created to be 320KB for DOS 1.1 and 640KB for DOS 2.x. All DOS commands treat electronic disk same as a regular floppy diskette or hard disk drive. Includes print spooler.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 3,000 since 1982 ☐ Cost: $50

EVEREX SYSTEMS, INC.

☐ Streaming Tape
Conducts file-by-file operations at close to streaming speed. Performs backup on multiple tapes. Places multiple backup sessions on same tape. Includes movable, nesting windows and on-line help.
IBM PC, XT, AT ☐ Cost: $150

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- Park heads
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- Custom file structure for improved disk performance
- Comprehensive, step-by-step manual

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CIRCLE NO. 176 ON READERS SERVICE CARD

E-X-E SOFTWARE SYSTEMS

☐ DOS200LS

Collection of 35 utility programs. Allows user to directly examine and alter computer's RAM and the contents of disks, perform various text-file filtering, and test the run-time efficiency of your program code.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $99

EXECUTIVE SYSTEMS, INC. (CA)

☐ X-Tree

Reviewed Jul 1986 p. 167.

Graphic file and directory handling. Accesses, copies, deletes, renames, views, moves, lists or prints any and all files within any and all directories.

IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $50

FIFTH GENERATION SYSTEMS, INC.

SEE AD ON PAGE 343

☐ Fastback

Reviewed Oct 1985 p. 31; Mar 1986 p. 78.

Backs up any size hard disk onto floppy disks. Creates file-oriented backup with imbedded error correction.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 55,000 since 1985 ☐ Cost: $179

FORD SOFTWARE

☐ Diskcat-5

Reads up to 32,000 file names. Adds category and description to each entry. Prints all or part of catalog sorted by file name, extension size, date or by disk or category. Prints directory-listing labels. Allows manual entry for nonDOS disks.

IBM PC, AT ☐ Cost: $69

FOX RESEARCH, INC.

(subsidiary of ComGen Technology)

☐ 10-NET RM/COBOL Runtime

Allows RM/COBOL users to share files and lock records of common files with concurrency control while operating on the FOX 10-NET LAN system. Permits programs compiled for MSDOS/PCDOS with any version of RM/COBOL, to access common data sets in a multi-user environment. Implements Ryan/McFarland COBOL, Version 2.0.

IBM PC ☐ 35 KB req. ☐ Introduced: 1985 ☐ Cost: $495

GENERIC COMPUTER PRODUCTS, INC.

☐ Archive

Allows binary and text files to be saved in one file. Creates an archive file whose contents can be listed, updated, appended, extracted or deleted. Date, time and comments may be added.

IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $35

☐ Catalog-Master

Disk cataloging program. Provides selection criteria and file descriptions for master directories sorted by file name. Output directed to user's terminal, line printer or disk file.

IBM PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $40

☐ CP/M Utilities Disk 1

Features H19 text screen list and graphic screen saved by line numbers. Provides enhanced file manipulation for copying, renaming and listing files. Recovers pie file after system abort. Displays file in hex and ASCII format. File copy/verification.

IBM PC ☐ 32 KB req. ☐ Introduced: 1984 ☐ Cost: $30

☐ Disk Patch

Disk dump/patch. Full-screen editing. Disk information displayed in ASCII and hex formats based on absolute track/sector locations. User can select specific sector or search for specified data values. Useful for restoring damaged directories or fixing corrupted disks.

IBM PC ☐ 32 KB req. ☐ Introduced: 1984 ☐ Cost: $40

☐ File-Patch

File dump/patch. Full-screen editing. File contents displayed by logical blocks within file. Data displayed in ASCII and hex formats by selecting specific block or searching for specified data values. Makes patches to binary program files.

IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $40

GENESIS MICROSYSTEMS

SEE AD ON PAGE 373

☐ NET

Datalink program which transfers files in either direction between Intel and IBM PC.

IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $200

GLENCO ENGINEERING, INC.

☐ SUPER DUP

Allows in-house duplication of diskettes. Completes read/write verification during duplication. Counter tracks number of successful targets produced. Maximum number of tracks duplicated is user-settable. Diagnostics program for disk drive maintenance available. Compatible with Glenco Engineering's copy protection products.

IBM PC, XT, AT ☐ 440 KB req. ☐ Introduced: 1983 ☐ Cost: $99

GOLDATA COMPUTER SERVICES, INC.

☐ Your Move

Allows data to be shared between programs. Captured data from first program becomes input to second program without rekeying. Macro capability.

IBM PC ☐ Cost: $60

GOLDEN BOW SYSTEMS

☐ California 10 Pak

Utilities to interrogate files, compare files, browse around memory, sort files, disassemble programs and provide DOS shell for functions such as time, date, path, lock key status and command history.

IBM PC ☐ Cost: $75

☐ FiXT

BIOS interface for hard disks and controllers. Boots system from hard disk, formats drive and partitions it. Operates with disk equipment from Davong, Datamac, Great Lakes, Percom, Tandon, Tecmar, VR Data, Xebec and Zobex.

IBM XT ☐ Cost: $80

☐ FiXT/B PLUS, FiXT/B PLUS/AT, FiXT/B PLUS/PC2

Hard disk BIOS for IOMEGA disk cartridge systems. Boots OS directly from removable cartridge. Defines partitions for nonOS use. Bootable cartridges may operate program/data storage, interchange with existing disks or be copied onto other disks.

IBM PC, XT, AT ☐ Cost: $95 (B PLUS, B PLUS/PC2); $110 (B PLUS/AT)

☐ V CACHE

Caches up to 16 MB of expanded memory, extended memory or one-half MB of normal memory of fixed disk data. Transfers cached sector chains to user's program. LRU algorithm identifies and prioritizes sector chains vs. single sector accesses.

IBM PC, XT, AT ☐ Cost: $65

☐ V feature and V feature Deluxe

Reviewed May 1986 p. 94.

Partitions hard disk to 12 33MB (V feature) or 12 280 MB (V feature Deluxe) logical volumes. Treats 2 physical devices as 1 logical device. Single file can span 2 drives (Deluxe only). Multi-level security. Password- or write-protect for individual volumes. Diskette access/keyboard lock out.

IBM PC, XT, AT ☐ Cost: $80 (V feature); $120 (V feature Deluxe)

GRAND MAX SOFTWARE CORP.

☐ Filemax

DOS file system backup, directory management and data defragmentation. Provides data compression, file encryption, data validation and on-line directories of stored file archives. Allows cut and paste of visually displayed directory tree.

IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $80

GUARANTEED SOFTWARE

☐ Arkive

Tracks and archives files. Manages storage. Searches and retrieves files based on subject matter, creating program and dates. Creates and maintains file information data base. Archives obsolete files to archive media. Supports file versions.

IBM PC ☐ Cost: $80

HEWLETT-PACKARD CO.

☐ Tape Backup System

Designed to protect data from system interruptions or loss of files.

IBM PC, XT, AT

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ DEF/36 (Diskette Exchange Facility/36)

IBM no. 5799-CCN. Interchanges data between IBM S/36 Model 5360 and 5362 8-inch diskettes and IBM S/36 Model 5364 5.25-inch diskettes. Utilizes PC virtual disk areas and transfers images as PC files directly on AT or via interim storage.

IBM PC, XT, AT ☐ 48-256 KB req. ☐ Cost: $325

☐ File Transfer 3270-PC Attachment

IBM no. 5799-WXJ. File transfer. Exchanges files between IBM 3270-PC Attachment for 3278 Display Station and IBM 8100 DPPX/SP system.

IBM 3270-PC

☐ Fixed Disk Organizer

IBM no. 6024-111. Command/instruction processing. Performs complex sets of IBM, DOS commands and instructions. Options created can be stored and retrieved for later use by single keystroke. Accesses application program on fixed disk and returns to main menu.

IBM PC, XT ☐ Cost: $50

IBM PERSONALLY DEVELOPED SOFTWARE

☐ DOS File View

IBM PDS no. 6276-593. Views files without invoking editor. Searches for specific words/characters. Reads files in 64KB segments with single command. ASCII or hexadecimal display. Assigns program commands to any function key. Chooses different screen colors to view files when using color display. Color EGA support.

IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $20

☐ Executive Phone Directory - Build Your Own

IBM PDS no. 6276-524. Builds company or organization directories from other files down-loaded from host. Supplies Executive Phone Directory and Executive Phone Directory With Message Feature users with compact files of organization directories. Color EGA support.

IBM PC, XT, AT, Portable PC, 3270-PC ☐ 128 KB req. ☐ Cost: $150

☐ File Facility

IBM PDS no. 6276-530. Selects file placement. Accesses files across subdirectories. Redefines search path at any time. Remains permanently available once loaded into memory. Color EGA support.

IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $20

☐ FileCommand II

IBM PDS no. 6276-558. Manages files using file directory with multi-line command area. Sorts files by size, date created or saved, alphabetical listing or drive and directory path. File and directory scrolling. Assigns DOS commands to function and alt keys to issue multiple commands. Color EGA support.

IBM PC, XT, AT, Portable PC, PCjr ☐ 128 KB req. ☐ Cost: $20

☐ Object Library Maintenance

IBM PDS no. 6276-543. Permits individual object files to be combined into one library file so that DOS linker program can process them as single file rather than individually. Lists library file contents. Saves diskette space. Rebuilds libraries to remove unused modules. Color EGA support.

IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $20

Imitation is the sincerest form of flattery.

But for *fast* backups, FASTBACK* is still the only choice

It seems that everyone with a floppy-based hard disk backup program is comparing themselves to **FASTBACK*** these days. Well, we're flattered.

The Industry Standard

After all, with the majority of *Fortune 500* companies *standardized* on **FASTBACK***, it's only natural for our competitors to compare themselves to us. Problem is, there's no comparison.

The *fastest* backups, period.

FASTBACK* can back up a *full* 10-megabyte hard disk in less than 8 minutes flat on standard 360K floppy diskettes! *No other program can even come close to matching our speed.* So when a competitor says they can make "average" daily backups in two minutes, they're talking about a small (1 meg) *incremental* backup that **FASTBACK*** can make in *less than a minute!* And on the IBM-AT & compatibles, we're even *faster:* **20** megabytes in 8 minutes on high-density 1.2 meg diskettes.

Simple power.

You won't find **FASTBACK*** cluttered with "file management" utilities and complex options to slow you down. **FASTBACK*** is a sleek, powerful program designed for *one purpose:* to safely back up and restore the vital data on your hard disk *as fast as possible.* Easy-to-understand prompts, interactive screen display and full wildcard naming conventions give you total flexibility to make full, partial or incremental backups quickly and easily.

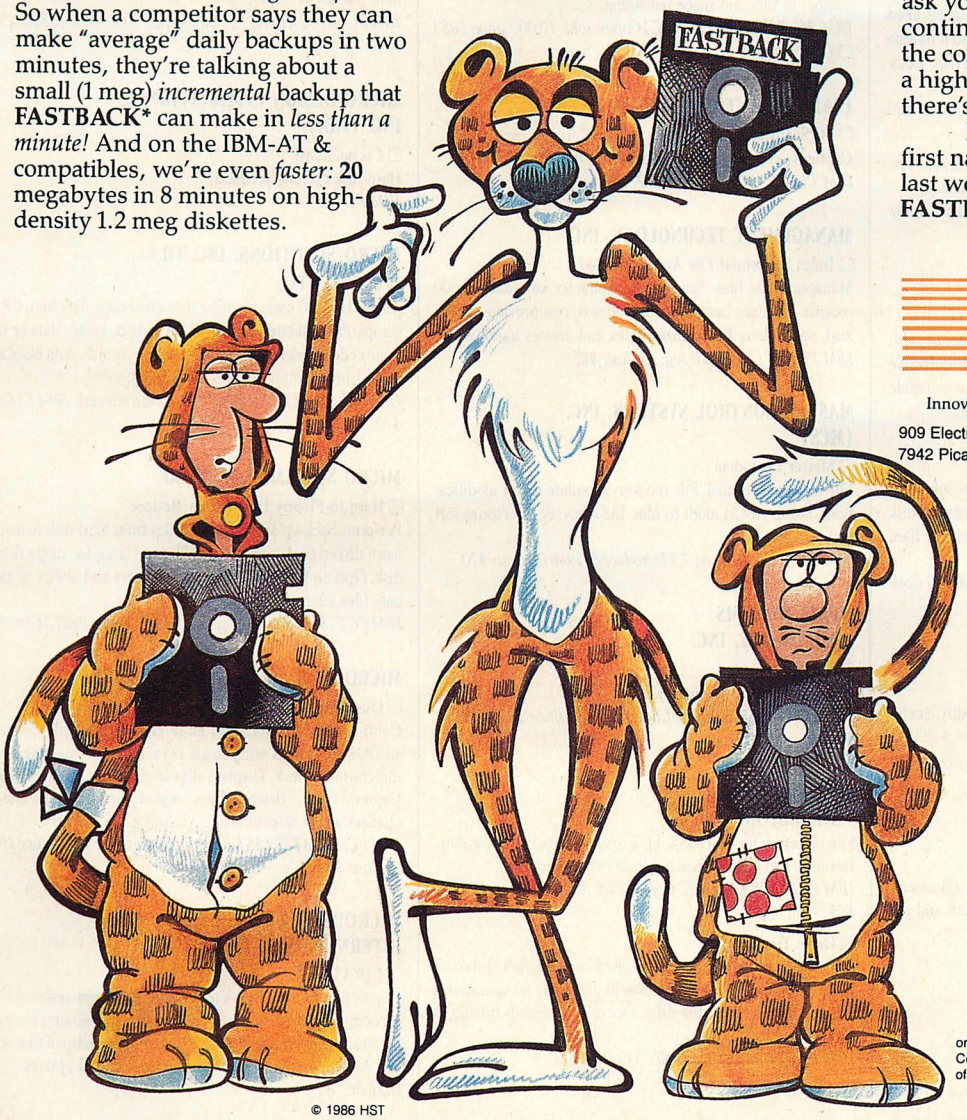
Error-correction vs. "disk mapping"

Some of our erstwhile flatterers try to make a virtue of the fact that they use standard DOS disk format for backups and "map out" bad sectors. But that won't do anything for disks damaged *after* the backups were made. **FASTBACK***'s special brilliance is a proprietary format that not only allows each disk to receive *more* data *much* faster than DOS, it also encodes Advanced Error Correction information that allows your vital data to be recovered *even if you staple, scratch or mutilate your finished backup* (tolerates up to 80 damaged sectors per disk)!

You get what you pay for.

The one thing *all* our imitators say is, they're *cheaper* than **FASTBACK***. And they are. So we ask you: since **FASTBACK*** continues to sell more copies than all the copycats put together — even at a higher price — don't you suppose there's a reason?

Find out for yourself why the first name in fast backups is still the last word on the subject. Get **FASTBACK*** today.

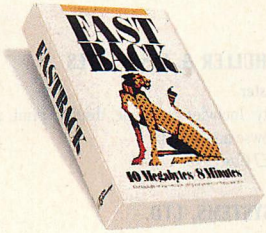


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CIRCLE NO. 134 ON READER SERVICE CARD

☐ SuperC
IBM PDS no. 6276-575. Shows text differences in document files. Generates output for application programs. Compares ASCII and non-ASCII data files. Uses unlimited file sizes. Audits files for changes. Creates change activity reports. Color EGA support.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $20

☐ System Support Package
IBM PDS no. 6276-580. Consists of DOS File View, File Command II, Personal Print Control and Super C.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $55

☐ Utilities I
IBM PDS no. 6276-517. File Compress and Expand compresses files in place, creates compressed backups and expands files to original size for processing. DOS Command Retriever manipulates commands and provides abbreviations for frequently entered commands to save keystrokes. Color EGA support.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $20

☐ Utilities II
IBM PDS no. 6276-520. File Locater locates and displays files by dates of entry, paths or sizes. Backup and Unmark handle file maintenance. DOS Tree Display searches for subdirectories by graphically mapping each subdirectory as it occurs alphabetically. Color EGA support.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $20

☐ Utilities III
IBM PDS no. 6276-574. Sort reorders files according to character, hex or ASCII values. Loadram and Saveram handle file transfer. Compare shows file differences. Errorlog signals need for preventative maintenance on diskette drives. Patch routine simplifies correcting of com and exe files with patch files. Color EGA support.
IBM PC, XT, AT, Portable PC, PCjr ☐ 128 KB req. ☐ Cost: $20

☐ Utilities Package
IBM PDS no. 6276-546. Consists of DOS File Tracker, The StarProof Bridge, Utilities I, Utilities II and File Facility.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $57

INTERSECTING CONCEPTS, INC.

☐ File Mate
Integrated file maintenance program. Copies files between different word processing programs, repairs files with defective end-of-line sequences, detects and processes non-printable characters, and displays the exact contents of a file.
IBM PC ☐ Cost: $30

☐ Media Master
Disk-to-disk format conversion. Accesses programs and data from CP/M and MSDOS. Reads, writes and formats 70 disk formats. From within one program, displays directories or files, copies and erases files.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 15,000 ☐ Cost: $40

J. L. SCHULLER & ASSOCIATES

☐ Filemaster
Disk utility. Includes file mode, display, print, modify, sector mode, browse and search.
IBM PC ☐ Cost: $40

J & M SYSTEMS, LTD.

☐ Memory Minder
Reviewed May 1985 p. 142.
Tests disk drives to monitor long-term drift of head alignment, index hole timing, spindle speed, hysteresis, azimuth and eccentricity.
IBM PC ☐ Cost: $79-$99

K PLUS L SOFTWARE

☐ DiskView
MSDOS disk and file management program. Provides directory management, graphical subdirectory tree displays, file locating and editing and erased file recovery. Lists files alphabetically or by file extension. Can change any byte in a binary or text file.
IBM PC ☐ 192 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $40

KOCH SOFTWARE INDUSTRIES, INC.

☐ PC Sweep
Utility that searches files and provides memory usage of files. Sorts through designated memory devices. Tracks edited/unedited files.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $80

KOLOD RESEARCH, INC.

☐ HTest/HFormat
Hard-disk testing/controller-level formatting. Displays location of tracks in which error was encountered and error code itself. Maintains up to 10,000 errors in memory. Formats/tests each track of hard-disk unit for default minimum of 32 times.
IBM PC, XT, AT ☐ Cost: $90

LASSEN SOFTWARE, INC.

☐ Diskette Manager II, Plus
Reads directory from each diskette and prepares catalog with user-provided comments. Each catalog stores information for up to 200 diskettes. Provides cross-reference and wild card searches. Prints labels with six lines of comments, creation date, number of files and space remaining.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 10,000 since 1983 ☐ Cost: $40-$80

LEARNING AUTOMATION, INC.

☐ PC Snapshot
Captures screen display and saves it as disk file.
IBM PC, XT, PCjr ☐ Cost: $49

MANAGEMENT TECHNOLOGY, INC.

☐ Index Sequential File Access Method
Manages index files. Supports 30 character keys and 32,000 records. Routines include read, readnext, readprevious, write, load, and delete. Reorganizes index and creates initial index.
IBM PC, XT ☐ 128 KB req. ☐ Cost: $25

MASTER CONTROL SYSTEMS, INC. (MCS)

☐ Master Custodian
File management tool. File recovery, absolute sector modifications, hex or ASCII mods to files, file recovery directories sort and backup tool.
IBM PC ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $70

MEDIA SYSTEMS TECHNOLOGY, INC.

☐ Format Manager
Generates formats on diskette.
IBM PC ☐ 128 KB req. ☐ Copies sold: 36 since 1979 ☐ Cost: $4,950

MICHTRON, INC.

☐ DI-RECTORY
File directory for MSDOS 2.11. Lists and sorts by size or date. Reverses sort order. Locates file anywhere on drive.
IBM PC ☐ 128 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $25

☐ Drive Timer Plus
Adds password security to files. Redates, renames, lists and prints directories. Copies or moves files. Checks for operational status of drive. Times disk drive's speed and records timings to disk.
IBM PC ☐ Introduced: 1985 ☐ Cost: $25

☐ Super Directory
Disk cataloging system. Attaches 25 character description to each file name.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $40

☐ SUPER ZAP
Traps and corrects disk errors. Displays disk tracks in hex and ASCII formats. Reads any combination of single and double sided disks with 8 or 9 sectors.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $50

☐ TRANSFER
Transfers data between TRS-80 Models I, III, 4 or 4P and MSDOS diskette. Converts TRS-80 BASIC programs to include necessary spaces required by MS-BASIC. Saves programs in ASCII form.
IBM PC ☐ 48 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $60

MICRO ANALYST, INC.

☐ Mac Zap
Copies protected disks. Reads, analyzes, edits and writes. Hard disk compatible. Provides windows for disk control, disassembly, graphics, hex/ASCII display, file information, volume information and file/disk recovery.
IBM PC ☐ Cost: $60

MICRO CONCEPTS, INC.

☐ Digitizing Overlay
Hard disk management tool. Stores and retrieves large numbers of programs or data files. Creates various levels of security. Features file commander, file generator, scratchpad, time manager and time-log recorder.
IBM PC ☐ 192 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $143

MICRO DESIGN INTERNATIONAL, INC. (MDI)

☐ Cache/Assist
Hard disk caching program.
IBM PC, XT

MICRO SOLUTIONS, INC. (IL)

☐ UniForm - PC
Allows IBM PC users to utilize data on or copy data from CP/M compatible diskettes. Supports ASCII text, binary data or program code. Works with word processing records, data bases and spreadsheets. Supports 110-160 formats.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $70

MICRO SYSTEMS SOFTWARE

☐ Hard-to-Floppy Disk Dump/Restore
Performs back-up and restore of files from hard disk to one or more diskettes. Accommodates files too large for single floppy disk. Options include wild card characters and ability to copy only files after specified date.
IBM PC ☐ 8 KB req. ☐ Copies sold: 200 since 1982 ☐ Cost: $50

MICRO-Z CO.

☐ Direc-Tree
Controls files/directories on large hard/floppy disk. Operates all DOS commands using single keys. Includes tree diagram of directories on disk. Displays files in directory, sorted 8 ways. Copies, views, deletes files, makes new/renames/erases/changes active directories.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 4,000 since 1984 ☐ Cost: $50

MICROBRIDGE COMPUTERS INTERNATIONAL, INC.

☐ CPYATZPC
Copies files from hard disk to 320/360 KB floppy disks on high capacity 1.2 MB diskette drive. Calculates checksum for each file during copy procedure. Transfers related group of files with one copy operation. Copies files using wildcard options.
IBM PC, AT

MICROCOMPUTER CONCEPTS, INC.

☐ McFormat
Adds to hard disk capacity by allocating space in smaller units than PCDOS.
IBM XT ☐ Cost: $50

MICROTASK, INC.

☐ Virtual/Volume/Manager
IBM PC ☐ Cost: $50

MICROWAY, INC.

SEE AD ON COVER 3

☐ DCache
Caches hard disk or floppy diskette using Intel Above Board, MicroWay's Megapage or conventional memory. Stores repetitively used tracks in memory. Memory selected can be selected in 64 KB banks.
IBM PC, XT, AT ☐ Cost: $49

☐ Dfixer
Checks for and solves bad sectors on hard disk. Checks unallocated sectors only eliminating data destruction. Changes file allocation table to indicate bad sector.
IBM PC, XT, AT

MIX SOFTWARE

☐ ASM Utility
Allows user to link object files created by Microsoft's MASM or M80 assemblers.
IBM PC ☐ Cost: $10

MLI MICROSYSTEMS

☐ Disk Mechanic
Backs up protected diskettes and works with protection schemes. Repairs diskettes. Exhibits hidden files. Restores deleted files. Determines physical location of each file on disk. Permits any byte of any sector of file to be examined, repaired, or changed.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 10,000 since 1983 ☐ Cost: $70

MORGAN COMPUTING CO., INC.

☐ Disk Toolkit
Floppy and hard disk utility for recovery of erased or damaged files. Allows examination of and changes to all files or sectors and the directory and file allocation table.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $75

MULTIPRO

☐ CATalog II
Diskette librarian. Reads/maintains cross-referenced index of disks/files. Reads/supports PCDOS V2.0 tree-structured directories. Supports 7,000 files on 320KB disk with any number of volumes. 40 character comment field for each volume and file.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,789 since 1983 ☐ Cost: $70

NEW GENERATION SYSTEMS, INC.

☐ BRX
Hard disk backup program that handles files larger than one floppy disk, backing up only changed files and selective file restoration.
IBM PC ☐ 256 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $195

☐ Disk Maker
Formats, reads, writes and duplicates over 350 floppy disk formats including CP/M, PCDOS, MSDOS, UNIX and TurboDOS. Supports dedicated word processing formats such as Wang, DECmate II, Xerox, and such phototypesetting formats as Compugraphic's MCS.
IBM PC ☐ 256 KB req. ☐ Copies sold: 350 since 1983 ☐ Cost: $1,095

ROBERT L. NICOLAI

☐ BASIC Program Printer
Reads any BASIC program file from disk whether saved in ASCII, tokenized or protected BASIC. Outputs file to a printer, disk or video display. Types source in normal or condensed mode at 6 or 8 lines per inch. Multiple copies available.
IBM PC ☐ 64 KB req. ☐ Copies sold: 40 since 1985 ☐ Cost: $20

NORTH AMERICAN BUSINESS SYSTEMS, INC.

☐ MEMORY/SHIFT
Partitions memory and holds 9 programs in memory simultaneously. Offers data transfer between software programs already in use by user. Supports 2 monitors, all levels of MSDOS and EGA color card.
IBM PC ☐ 128 KB req. ☐ Copies sold: 20,000 since 1983 ☐ Cost: $99

NOSTRADAMUS, INC.

SEE AD ON PAGE 240

☐ Hardrunner
Allows user to run Lotus 1-2-3 version 1A, Sidekick and Symphony version 1.0 from hard disk without having to place system diskette in drive A. Does not copy or make alterations to any copyrighted Lotus program.
IBM PC, XT, AT, 3270-PC ☐ 64 KB req. ☐ Copies sold: 12,000 since 1984 ☐ Cost: $50

ONTRACK COMPUTER SYSTEMS, INC.

☐ Disk Manager
Initializes, partitions and prepares ST-506 disk drives. Aids installation and addition of drives to systems. Provides automatic or customized installation. Permits multiple partitions and selectable interleave value for each partition.
IBM PC, XT, AT

☐ Disk Manager-N
Attaches ST-506 disk drives to file server using Novell. Initializes, partitions and prepares drives. Allows automatic or customized installation. Permits multiple partitions and selectable interleave value for each partition.
IBM PC, XT, AT

PARAGON COURSEWARE

☐ DiskOrder
Organizes files. Simplifies mass copies between sub-directories. Checks file dates and copies only most recent versions. Locates files, returning paths.
IBM PC ☐ 128 KB req. ☐ Copies sold: 30 since 1985 ☐ Cost: $25

PCX

☐ Read-CP/M
File transfer to inspect directory of CP/M-86 diskette and transfer most or all files onto MSDOS diskette.
IBM PC ☐ 64 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $75

PEARLSOFT, INC.

☐ File Load Utility
For use in bringing ASCII files from external software into Personal Pearl relational data base.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $100

PECAN SOFTWARE SYSTEMS, INC.

☐ Advanced File System
IBM PC, XT, AT ☐ Cost: $60

☐ Disk Recovery Toolkit
IBM PC, XT, AT ☐ Cost: $30

☐ XenoFile
IBM PC, XT, AT ☐ Cost: $30

PERSONAL BUSINESS SOLUTIONS, INC.

☐ Dpath+Plus
Allows programs running in one disk directory to access data files located in other directories. Supports file name aliasing and virtual drives. Protects from accidental formatting of hard disks by DOS format command. Can be deactivated/reactivated. Searches up to 128 different directories.
IBM PC, XT, AT ☐ 4 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $45

PERSONAL COMPUTER SUPPORT GROUP, INC.

☐ Disk+
Disk storage. Uses such other computers as Apple or IBM PC as disk storage device. Saves files from RAM to diskette and loads files from diskette to RAM via single function key. Transfers files.
IBM PC ☐ Cost: $70

PHOTON SOFTWARE

(division of Care Computer Systems)

☐ Media Magician
Full-disk editor. Works on volume names, file allocation tables, directories, sub-directories, boot tracks, mode bytes and file areas. Hex or ASCII input. Displays clusters allocated to specific file, bit map of F.A.T. disk structure dynamics and file names.
IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 5,000 since 1982 ☐ Cost: $49

PICO PUBLISHING

☐ Browse
Scans text files page by page, left, right, home and end. Makes no changes to files.
IBM PC ☐ 64 KB req. ☐ Introduced: 1986 ☐ Cost: $10

☐ Diskmate
User can list string of file names on 1 command line. Reports progress of program. Contains multcopy and multdel for replacing DOS copy and erase commands. Eliminates repeated commands. User can quit command with 1 keystroke.
IBM PC ☐ 64 KB req. ☐ Introduced: 1986 ☐ Cost: $10

☐ G-DIRECT
Lists directory of hard disk or diskettes. Sorts on file name, extension, date or size. Shows disk space used by set of files and amount of free space on given drive.
IBM PC ☐ 64 KB req. ☐ Introduced: 1986 ☐ Cost: $10

☐ G-Whiz
File manager. Displays menu of files on given drive or directory. Copies, moves, deletes or prints indicated files. Sorts files by name or extensions.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $10

☐ New View
Includes Dump and Showable. Dump reads file and displays characters in hexadecimal format. Shows ASCII characters on side. Showable reads file and displays only printable characters.
IBM PC ☐ 64 KB req. ☐ Introduced: 1986 ☐ Cost: $10

☐ Slicers
Chunk breaks files into smaller parts based on line count input. PULLCOL extracts columns from file. PRINTL extracts every n'th line from file where N is interval. Truncate trims every line in file to specific length.
IBM PC ☐ 64 KB req. ☐ Introduced: 1986 ☐ Cost: $10

POLARIS SOFTWARE

☐ Crunch
Reduces graphic file sizes to meet LaserJet and LaserJet Plus memory requirements. Eliminates unnecessary commands.
IBM PC, XT, AT ☐ Cost: $50

POPULAR PROGRAMS, INC.

☐ DOS Help
On-line assistance for PCDOS and MSDOS. Features extra commands such as backup, restore, and the ability to search directories and alphabetize files.
IBM PC, XT, AT, 3270-PC, PCjr ☐ Cost: $40

☐ Pop-Up PopDOS
IBM PC, XT, AT, 3270-PC, PCjr ☐ 128 KB req. ☐ Cost: $40

POWER UP

☐ **Disk Quick**
Reassembles fragmented files and restores file handling speed. Sorts files and directories by name, extension, date/time or length. Spots failing sectors and moves affected data to new location on disk. Marks failing sectors so they will not be used again.
IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Cost: $60

☐ **File Clerk**
Organizes storage of data files. Places up to 500 files in single master file and allows user to attach descriptive note to each individual file. Displays notes and original file names on screen. Locates notes by words or phrases.
IBM PC, XT, AT, PCjr ☐ 192 KB req. ☐ Cost: $50

PROBITY, INC.

☐ **Genu**
Multi-function disk utility. Supports diskette or hard disk. Provides display sorted directories. Displays files or absolute sectors with option to change for making changes in hex or character on same screen. Includes search files or absolute sectors for hex or character searches.
IBM PC, XT ☐ 32 KB req. ☐ Copies sold: 23 since 1983 ☐ Cost: $45

THE 'PUTER GROUP

☐ **PC-Transfer**
Transfers files in batch to MCS disk. Handles files up to 150,000 characters. Utility breaks larger files into smaller sizes. User-definable keys. Includes Replace data conversion program.
IBM PC ☐ Cost: $695

QUADRAM

(subsidiary of Intelligent Systems Corp.)

☐ **Quad Master III**
Accesses files stored on QuadRAM disk drive. Requires Quadboard, Quadboard II, or Quad 512+. Functionally identical to single-sided or double-sided disk drive using part of computer's memory as solid-state disk drive. Only variable is number of memory blocks.
IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $20

QUAID SOFTWARE, LTD.

☐ **CopyWrite**
Makes backup copies of commercially distributed software. Provides backup copies of IBM PC software, including copy protected software. Not copy-protected.
IBM PC, AT, XT ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ **Disk Explorer**
Examines and displays disk contents. Changes formats, corrects bad tracks, restores deleted files, displays and changes file allocation tables and directories and displays odd formats. Reviews sector IDs and spacing. Displays sectors in ASCII or hexadecimal and changes sector contents.
IBM PC, XT, AT PCjr ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $75

☐ **ZeroDisk**
Runs copy-protected business packages from user's hard disk without requiring a key disk in floppy drive. Revised monthly to add new packages and to track changes in copy protection. Not copy protected.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $75

READIWARE SYSTEMS, INC.

☐ **ReadiScope**
Reviewed May 1985 p. 142.
Diagnostic program that analyzes current status of diskette drive. Tests completed without requiring removal of disk drive. Adjustments to head and spindle hub alignment made without special equipment, skills or knowledge.
IBM PC ☐ 48 KB req. ☐ Copies sold: 1,500 since 1983 ☐ Cost: $295

REALIA, INC.

SEE AD ON PAGE 295

☐ **RealFILE**
Supports sharing of indexed files among multiple machines. Central journal communicates task record locks, current positions, and block alterations. Files not controlled via journal may be accessed exclusively or shared among multiple machines.
IBM PC, XT, AT, 3270 PC ☐ Cost: $295

☐ **Spacemaker**
Compresses .EXE and .COM format executable files. Reduces programs with large data or stack segments. When executed, compressed programs expand and relocate, recreating original program. Replaces EXE2BIN and converts any .EXE program to .COM, providing compressed version is smaller than 64KB.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,250 since 1982 ☐ Cost: $75

REFERENCE TECHNOLOGY, INC.

☐ **Clasix STA/F File**
Read-only optical disk file manager. Raises PC data capacity to mainframe levels. Supports file size up to 4 GB. Interfaces with CLASIX STA/F Key and CLASIX STA/F Text.
IBM PC, XT, AT ☐ 32 KB req. ☐ Introduced: 1985

RIGHT ON PROGRAMS

☐ **Disk-It**
Categorizes and catalogs software. Performs job by subject, title, grade level and computer.
IBM PC, XT, PCjr ☐ 48 KB req. ☐ Copies sold: 2,000 since 1981 ☐ Cost: $50

SAMKHYA SOFTWARE CORP.

☐ **SWEEP'r**
Protects sensitive data from recovery. Cleans deleted files from any disk. Cleans around active files, leaving file intact. Cleans entire disk with 1 command. Cleans away all drafts of deleted documents.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $40

SBT CORP.

☐ **.dBackup II**
Combines main menu with room for nine data base programs, inserts password for each program, provides backup of hard disk on to multiple floppies of any capacity.
IBM PC ☐ Cost: $45-$65

SOFCAP, INC.

☐ **H.D. Tuneup**
Disk optimization. Divides disk into directory and file areas, collects subdirectories and moves them close to root directory.
IBM PC, XT, AT, PCjr ☐ 196 KB req. ☐ Cost: $40

SOFTFOCUS

☐ **BTree**
Creates b-tree indices for data files. Determines key and record contents in each file. Random and sequential file processing. Deleted space automatically reclaimed. Applies key value and long data record pointer to each index entry. K & R standard C, Lattice C, Aztec C, DeSmet C and Microsoft C compatible.
IBM PC, XT, AT ☐ Introduced: 1984 ☐ Cost: $75

☐ **ISAM Driver**
BTree Library interface. Applies identical format to calls and requires only integer descriptor of file system and pointer to its structure to read and write from. Updates indices upon any key value changes. Supports definitions for multiple indices.
IBM PC, XT, AT ☐ Copies sold: 1,000 since 1984 ☐ Cost: $40

SOFTLOGIC SOLUTIONS, INC.

☐ **Cubit**
Data compression/disk expansion. Reduces number of bytes required to store file, then converts file back to original size when retrieved.
IBM PC ☐ Cost: $50

☐ **Disk Optimizer**
Collects files and organizes them on disk. Disk analysis, password protection and file examination.
IBM PC, XT, AT ☐ 18 KB req. ☐ Copies sold: 40,000 since 1985 ☐ Cost: $50

SOFTWARE MASTERS (IN)

☐ **Calc-Pad**
RAM-resident calculator. Hex, octal, binary and decimal. Works in any graphic mode. Unlimited parenthesis nesting.
IBM PC, AT, XT, PCjr ☐ Cost: $50

☐ **Data-Path**
Sets up paths to find data and overlay files.
IBM PC, AT, XT, PCjr ☐ Cost: $50

☐ **Flash**
Increases speed of disk access.
IBM PC, AT, XT, PCjr ☐ Cost: $70

☐ **MoreHard**
Increases hard disk space.
IBM PC, AT, XT, PCjr ☐ Cost: $50

☐ **Super-Ram-Disk**
Sets up multiple RAM disks.
IBM PC, AT, XT, PCjr ☐ Cost: $50

THE SOFTWARE STORE

☐ **Mastersweep**
Disk file maintenance utility. Accesses disk directories/files. User can find, view, copy, print, rename, move, delete or tag files.
IBM PC ☐ 64-128 KB req. ☐ Introduced: 1986 ☐ Cost: $49

SOFTWARE STUDIOS, INC.

☐ **Stripper: Global File Editor**
Finds and replaces up to 100 word strings in one pass, writing out the edited file. Strips carriage returns, word processing commands or characters within a file, replacing them with another set of commands or deleting them entirely.
IBM PC ☐ Cost: $125

SOFTWARE SYNERGY, INC.

☐ **Respond/ETU 34/36/38 File Transfer**
Transfers capabilities between PC running RESPOND/5251/12 Remote and IBM S/34/36/38. Transfers all files including text or binary. Runs by PC disk drives in host environments. Transfers and prints simultaneously.
IBM PC ☐ 256 KB req.

THE SOFTWARE TOOLWORKS

☐ **Super Zap**
Makes system patches and repairs damaged data. Combines menu control with 2D screen interaction. Allows full screen display of disk records by absolute sector number or by file and sector. Displays data in hex, octal or ASCII.
IBM PC ☐ 48 KB req. ☐ Introduced: 1980 ☐ Cost: $25

STERLING SOFTWARE

Dylakor Division

☐ **DYL-IB**
Performs daily backup of files that have been changed or informs user of elapsed time since last backup. Maintains index including time of last backup, number of backup copies and age of backup. Runs other programs during backup. Full-screen editor.
IBM PC, XT, AT ☐ 256 KB req.

STOK SOFTWARE, INC.

☐ BackRest
Intelligent hard disk to floppy backup and restore. Handles sparse files and splits large files. Provides fault tolerant restore and bad sector lockout. Traps system and user errors.
IBM PC ☐ 48 KB req. ☐ Copies sold: 20,000 since 1982 ☐ Cost: $180

SUMTECH, LTD.

☐ MISS (Multiple Index Search Services)
Manages data file indexing. Allows programmer to develop data base programs in languages including BASIC, Assembly, C, FORTRAN and Pascal. Provides simultaneous access to 250 indices.
IBM PC ☐ Introduced: 1985 ☐ Cost: $70

SUPERSOFT, INC.

☐ Disk Doctor
Recovers crashed diskettes. Verifies diskettes and locks out bad sectors. Copies whatever can be read from crashed file. Copies diskettes and replaces bad sectors with spaces. Recovers erased files and displays directory of recoverable erased files.
IBM PC ☐ 48 KB req. ☐ Introduced: 1981 ☐ Cost: $250

☐ Disk Edit - The Professional Programmer's Disk Utility
Screen-oriented disk editor. Examines/alters files that cannot be examined with normal text editor. Provides raw information in hex and ASCII. Scrolls through information and alters it using text editing commands. Allows back and forth movement between hex and ASCII windows.
IBM PC ☐ 32 KB req. ☐ Introduced: 1982 ☐ Cost: $100

SYSTEM FACILITIES, INC.

☐ XPIP-Integrated Utility System
Lists files on the printer or monitor with several formatting options. Renames and deletes files. Sets or clears the MSDOS hidden, system, read-only and archive file attributes or all CP/M attributes. Searches files for the occurrence of a string. Compares two files of any type.
IBM PC ☐ 44 KB req. ☐ Copies sold: 275 since 1984 ☐ Cost: $30

SYSTEMS AND SOFTWARE, INC.

☐ FASTCOPY
Allows PERSTOR hard disk system user to make usable Winchester copy backups. Copies between PERSTOR's fixed Winchesters to portable Winchester 12 MB removable cartridge drives. Provides security.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $65

TACHYON CORP.

☐ Nibbler
Reviewed Jul 1986 p. 168.
Manipulates disk and memory data at sector level. Recovers erased files. Renames directories. Gathers lost data in memory and stores on disk. Collects and saves sectors from disk with trashed directory. Transfers files from formatted diskettes to DOS disks.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $50

TALL TREE SYSTEMS

SEE AD ON PAGES 207/209

☐ JETDRIVE
Creates RAMDisk. Contents of RAMDisk are not damaged by warm re-boot. Includes JET file transfer utility. Selects files by date, presence in list or presence of earlier versions.
IBM PC, XT ☐ 192 KB req. ☐ Introduced: 1983 ☐ Cost: $60

☐ JFORMAT-2
Reviewed Jan 1984 p. 66.
Supports dual, quad, 8-inch and high-density diskette drives. Accommodates 22 formats. Permits 4 drives on 1 machine. Stores 800 KB on standard diskettes using 96 tpi drives and diskette controller.
IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $60

TALLGRASS TECHNOLOGIES CORP.

SEE AD ON PAGE 137

☐ Backtrack
Reviewed Mar 1986 p. 78.
Backs up files from user's hard disk to backup device. Runs in background allowing user to continue processing as usual. Backs up entire hard disk or only some directories. Can exclude files from backup and splits files. Restores files in any order.
IBM PC, XT, AT, Portable PC ☐ 256 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $129

TECHNISOFT

☐ File Savior
ASCII and hexadecimal data. Recovers erased files and salvages data from damaged disks. Displays, searches and modifies EBCDIC files.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $50

3COM CORP.

☐ 3+Backup
Provides tape backup/restore using 3Server tape units. Insures data integrity on network server disks. Allows preprogramming for scheduled backup. Handles backup for multiple servers to single tape unit across network.
IBM PC, XT, AT ☐ Introduced: 1986

TRAVELING SOFTWARE, INC.

☐ T-backup
All information in one bank of user memory is transferred to or from cassette simultaneously including all BASIC, text and machine language fields.
IBM PC ☐ 8 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $20

TRISYSTEMS

☐ DC (Directory Copy)
Copies any MSDOS hard or soft disk. Checks dates so new files are not replaced with older ones. Copies directories with or without paths. Optionally prints date and time of files being copied.
IBM PC

☐ SRCOM (Source Compare)
Compares 2 sources and prints lines which are different, along with line numbers associated with file. Realigns files once there are more than 5 lines found which look alike.
IBM PC

UNIQUE AUTOMATION PRODUCTS, INC.

☐ LINK
Communications file transfer to move binary or text files between mixed or matched computers using standard ports. Reliable protocol corrects line errors and compresses transmitted data. Files are ready to be used as stored, with no conversion necessary.
IBM PC, XT ☐ Copies sold: 1,000 since 1982 ☐ Cost: $250-$1,500

UNITED SOFTWARE SECURITY, INC.

☐ Take Two
Reviewed Jun 1986 p. 198.
Backs up information stored on hard disks. Formats backup floppies automatically. Allows customization. Preset defaults. Allows for configuration to change status of specified files, directions or backup frequency. Restores file, directory or hard disk with full-screen displays.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 500 since 1986 ☐ Cost: $165

VERICOMP

☐ Micro VMS
Virtual memory for programs designed to Lotus/Intel/Microsoft expanded memory specification. Uses fixed disk or RAM disk to simulate one or more expanded memory boards. Supports Lotus 1-2-3, Symphony, SuperCalc 4 and Reflex. Adjustable size of virtual memory set up from 64 KB to 4 MB.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $75

VICTOR TECHNOLOGIES, INC.

☐ Hard Disk Tool Kit II
Creates non-standard hard disk configurations, remaps bad tracks, and performs hard disk diagnostics. Defines and initializes additional hard disk configurations. Identifies, logs, and replaces defective media. Runs hard disk confidence test of new unit when hardware errors are suspected. Reformats and protects hard disk.
IBM PC ☐ 128 KB req. ☐ Cost: $195

WESTLAKE DATA CORP.

☐ SafetyNet
File recovery system. Recovers files or subdirectories of files that were accidentally erased. Provides preventive measure. Recovers data from accidentally reformatted hard disk.
IBM PC ☐ Cost: $50

XIDEX CORP.

☐ Investigator
Diagnostics for testing performance of flexible disk drives. Test profile checks read/write accuracy, spindle speed, static head alignment, timing of index to data, azimuth head rotation, dynamic head alignment and disk centering.
IBM PC ☐ Cost: $35

DOCUMENTATION GENERATORS/AIDS

CAINE, FARBER & GORDON

☐ PDL/81 (Program Design Language)
Aids software design and documentation. Controls page layout. Provides security banners with document classification and sheet count. Defines primary/secondary keywords and layout/characteristics of segment types. Generates table of contents, document indexes and cross-references.
IBM PC ☐ Cost: $5,700

COMMUNICATIONS SCIENCES, INC.

☐ Explain System
For writing, maintaining and viewing manuals. Creates manual linked to any program or set of programs. Combines text editing facilities with data base structure. Template screens create user manual, printing functions, and documentation data base.
IBM PC ☐ 256 KB req.

ELECTRONIC RESEARCH ASSOCIATES, INC.

☐ Wizeman
Produces disk-based manuals and tutorials. Provides interpreter and text/graphic editor. Defines concepts and illustrations. Uses pointing device.
IBM XT, AT ☐ 512 KB req. ☐ Introduced: 1986 ☐ Cost: $2,000

GENERAL DATA SYSTEMS, LTD.

☐ Dx Documentation Generator
Maintains text extracted for selective composition. Uses elements from data bases, including tables, reports on parts of other documents, as text for composition purposes. Provides word processing output. Performs on global or selected basis.
IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983

HAVENTREE SOFTWARE, LTD.

☐ Interactive EasyFlow
Graphics program for preparing and maintaining flowcharts and organization charts. Creates charts up to 16 shapes wide by 16 shapes high. Provides editing, three levels of zoom, text centering and line routing. Requires IBM PC compatible graphics adapter.
IBM PC ☐ 384 KB req. ☐ Copies sold: 2,000 since 1985 ☐ Cost: $150

P. C. STAT, INC.

☐ ASAP Flow-Chart System

Allows 12 flow-charting symbols, connecting lines and arrows. User inserts, deletes and edits text or figures. Outputs charts to any printer with EPSON graphics.

IBM PC, XT, PCjr ☐ 128 KB req. ☐ Cost: $55

SOFTOOL CORP.

☐ FORTRAN Programming Environment

Shorthand language, structured languages, source code auditor and documenter, interface documenter, error detectors, libraries of pre-fabricated code, testing and tracing aids, optimizers, dynamic memory managers, flow analyzers and mini-mainframe to PC communications.

IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 1,500 since 1980

TRANSACTION SYSTEMS, INC.

☐ ADG (Automatic Documentation Generator)

Develops outline and answers series of questions regarding items in that outline. Organizes and controls input of text while maintaining a documentation log. Revision and update control for documents and automatic notification letters. Prepares boiler plate information.

IBM PC, XT, AT, PCjr, XT/370, 3270-PC, Portable PC ☐ 128 KB req. ☐ Cost: $350

TULSA COMPUTER CONSORTIUM

☐ BASIC Aids Student

Generates program documentation. Menu selections include modular program source listing, double sorted line cross-reference map, sorted index of BASIC statements including variable names, and program table of contents. Generates list of changes while new program file is created.

IBM PC ☐ 160 KB req. ☐ Introduced: 1982 ☐ Cost: $39

PolyLibrarian

The Premier Object Module Library Manager

For serious programmers and professional programming teams, PolyLibrarian is an essential tool. If you already have a primitive librarian such as MS-LIB, you will realize a dramatic improvement in your productivity by switching to PolyLibrarian. You can make your linking process more efficient by organizing and managing code with PolyLibrarian because you can effectively control programs with large numbers of object modules. PolyLibrarian lets you create libraries from related object modules. Your linker will then select only the modules necessary to produce an executable file. You can also organize, modify and reconstruct existing libraries of object modules. You can even change the public names in object modules to resolve conflicts without access to the source code. You can create object module libraries using C, Pascal, Assembler, FORTRAN, Ada, Basic, COBOL and other languages that run under MS-DOS and produce compatible object modules. Compatible with compilers and assemblers that produce object modules compatible with the MS-DOS (IBM PC) Linker, PLink86, PLink86 Plus or other compatible linker. Requires MS-DOS 2.0 or higher. PolyLibrarian ($99) supports Microsoft format libraries. PolyLibrarian II ($149) supports both Microsoft and Intel format libraries.

For complete details write for the POLYTRON Programmer's Catalog. Also refer to review in PC Tech Journal, Oct. 1984 issue.

$99

"It is no small feat for a microcomputer program that costs $99 to hold its own against a supermini program that costs many thousands or tens of thousands of dollars. PolyLibrarian is one software product that can't be outgrown."

Kuryan Thomas
PC Tech Journal

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High Quality Software Since 1982

CIRCLE NO. 281 ON READERS SERVICE CARD

LIBRARIANS

APPLIED MANAGEMENT SYSTEMS, INC. (MD)

☐ Microcomputer Based Configuration Management System (CMS)

Maintains acquisition, location, vendor, maintenance and documentation information on user's hardware and software. Provides management reports including insurance listings.

IBM PC, XT, AT ☐ 640 KB req. ☐ Introduced: 1985 ☐ Cost: $500

☐ Microcomputer Clearinghouse System (MCS)

Central directory of applications. User can create catalog of applications developed by different offices within organization. Tracks submission dates, testing dates and release dates. Prints in various formats.

IBM PC, XT, AT ☐ 384 KB req. ☐ Introduced: 1985 ☐ Cost: $1,500

GENERAL DATA SYSTEMS, LTD.

☐ Dx Source Librarian

History of activity against each member, directory management, program restoration, password, rename copy, global editing, security, COBOL macro facility, formatting program generation, cross-reference keyword abbreviations and installation-defined standards.

IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983

GENESIS MICROSYSTEMS

SEE AD ON PAGE 373

☐ CREF86

Cross-reference listing of modules and libraries show where each symbol is defined and referenced.

IBM PC, XT, AT ☐ 192 KB req.

☐ LIB86

Combines program modules into a single library file for use with Genesis LINK86.

IBM PC, XT, AT ☐ 192 KB req.

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Business Library Series-Librarian

IBM no. 6871-410, 420.

IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $95

☐ Diskette Librarian

IBM no. 6024-050. Creates catalog of file names over multiple diskettes.

IBM PC ☐ 64 KB req. ☐ Cost: $45

IBM PERSONALLY DEVELOPED SOFTWARE

☐ DOS File Tracker

IBM PDS no. 6276-518. Identifies each file with user-specific comments. Adds security classification to designated files. Arranges files by alphabetical filename, extension, size, comment or name of diskette holding files. Prints diskette labels and content-identifying inserts. Identifies duplicate files among diskettes. Color EGA support.

IBM PC, XT, AT, Portable PC ☐ 128 KB req. ☐ Cost: $20

MICROTEC RESEARCH, INC.

SEE AD ON PAGE 306

☐ Librarians

Includes library creation, activation of individual public symbols, addition or deletion of individual modules and listing of library contents and symbol information.

IBM PC

PERSONAL BIBLIOGRAPHIC SOFTWARE, INC.

☐ Pro-Cite
Stores bibliographic records of any length. Full text searching. Unlimited key word searching and indexing. Retrieves information through Boolean logic. Customized bibliographic formats. Supports IBM extended character set for foreign character and scientific symbol entry. Sorting on all fields.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $295

SYSTEM ENGINEERING TOOLS, INC.

☐ SET:SCIL
Historical record of changes to programs in library including date, author and comments. Version and release labels. Supports concurrent development on a program while detecting overlapping changes.
IBM PC ☐ 64 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $349

MENU FACILITIES

THE DAVID L. ALDRIDGE CO., INC.

☐ PreCursor
Hard disk menuing system. Accesses any program, DOS command or batch file from built-in utilities menu. One-screen menu set up. Includes printer setup options, passwording capability and screen color choices.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $74

ARISTO SOFTWARE

☐ DOS-Helper
Provides help files for DOS commands, debug commands and additional items. User can delete, modify or add own help files for any subject. Includes standard and memory-resident versions.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $35

ARRIX LOGIC SYSTEMS, INC. (ALSI)

☐ APS/Dialog
Allows interactive customization and creation of user-defined menus and dialogues while menu responses are edited on input. Function key definitions under user control and stored in profile data set.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $210

☐ APS/Flist
Displays and sorts any directory. Executes programs with two keystrokes. Multiple commands stacked for execution. Supports mono and RBG screens and IBM 3270 PC.
IBM PC, XT, AT, 3270-PC ☐ 128 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $65

AUSTEC, INC.

☐ ACEMenu
Menu/security system. Creates/maintains menu hierarchies at screen. Optional password controls available at menu levels. Caters to software development and commercial applications environments. Facility to execute nominated sequence of programs. Requires ACEBridge.
IBM PC

BLT BUSINESS SYSTEMS, INC.

☐ Menu-EZ
Creates and changes menus with edlin editor. Transfers to any menu screen. Menus nested to 32 levels deep. Generates tutorial documentation.
IBM PC ☐ 128 KB req. ☐ Copies sold: 12 since 1983 ☐ Cost: $150

BMS COMPUTER, INC.

☐ EASY-DOS-IT
One keystroke access to programs, DOS functions and tutors. Supports password protection, color, multi-user networks and RAM drives.
IBM PC, XT, AT ☐ 32 KB req. ☐ Copies sold: 7,000 since 1984 ☐ Cost: $60

BUSINESS SYSTEMS MARKETING, INC.

☐ MShell
Menu/security and user assistance system. Provides selection of UNIX operating commands. Option selection feature.
IBM PC, AT ☐ Cost: $125

BYTEL CORP.
Software Development Division
SEE AD ON PAGE 364

☐ Menupro
Menu processor for business applications interface. Interactive process allows menu modification, security, listings of operators and programs and multi-user capabilities.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1982 ☐ Cost: $250-$700

COMMAND SOFTWARE SYSTEMS, INC.

☐ MenuCommand
User selects one of four menu formats and defines each menu selection's title, program or procedure on which it will run and device and subdirectory path on which program resides. System security provides program exits.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $90

COTTAGE INDUSTRIES, INC.

☐ Menu System
Front end for DOS. Simplifies operation through unlimited number of user-defined menus each with up to 19 selections. Screensaver function. For single-and multi-user systems.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $50

DANNYSOFT, INC.

☐ Cmenu
Nested menus and password protection. Allows color defaults to be changed. Menus can be modified and set up with any text edition or included menu generator.
IBM PC ☐ 256 KB req. ☐ Cost: $50

DATA BASE CONSULTING

☐ EasyMenu
Creates numerous menus each with up to 96 selections. Supports up to 99 operators. System supervisor allows customization for each operator. System log provides audit trails of usage by operator/task. Accessible by other programs. Password protection available.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $50

DEERESOFT, INC.

☐ Magic Menu
Tailored menu system. Moves from program to program without directly using DOS. User log on/off, 20 entries per screen, variable menu formats and passwords, user lockout from DOS, half second display time, screen blanking and sequence screens. Audit trails. Novell NetWare compatible.
IBM PC, XT, AT, 3270-PC ☐ 16 KB req. ☐ Copies sold: 4,000 since 1984 ☐ Cost: $99-$500

DELTA TECHNOLOGY INTERNATIONAL

☐ Direct Access
Hard disk management and access. Allows single keystroke access to programs on hard disk. Crosses subdirectory boundaries. Features time usage tracking with report generator, batch file processing, DOS command execution, password protection and diskette prompting. Requires no file restructuring.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 20,000 since 1984 ☐ Cost: $90

DMS, INC.

☐ Menu Master
Menu-controlled OS shell supporting submenus, color, time and date. Executes complex command streams when user makes menu selection.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $175

FEROX MICROSYSTEMS, INC.

☐ Encore HelpMate
User-created help message system for Ferox Microsystem's Encore. Helps developers document, debug and demonstrate applications. Consists of screen editor, help file builder and indexer. Indexes Encore's files and models. Presentation aid.
IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 200 since 1986 ☐ Cost: $95

FINANCIAL DYNAMICS

☐ dBASE III Utility
Includes menu system, data maintenance, archival routines and dynamic help routines. Interfaces dBASE III.
IBM PC, XT, AT, 3270-PC ☐ 320 KB req. ☐ Copies sold: 70 since 1985 ☐ Cost: $50

☐ Pascal Utility
Menu generation for Turbo Pascal. Creates Lotus-like menus. Includes date math, time math and formatting routines similar to dBASE picture format. Provides string and numeric functions. Accesses dBASE II and III files.
IBM PC, AT, XT, PCjr ☐ 256 KB req. ☐ Copies sold: 60 since 1985 ☐ Cost: $50

FRONT ROW SYSTEMS

☐ Menu Maker
Creates customized menus in Lotus 1-2-3. Utility worksheet may be inserted in any current worksheet.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $35

GETC SOFTWARE, INC.

☐ Lazy Susan
For hard disk computers. Single keystroke selection. Up to 100 items per menu. Allows user-designed menus. Runs batch files. Lock password feature.
IBM PC ☐ 128 KB req. ☐ Cost: $50

GURDAK SOFTWARE DEVELOPMENT

☐ Menu System Manager
Provides system management via user-created menus. User can invoke any DOS command or program file name. Stores date, time, user ID, command invoked and purpose of access for menu entry.
IBM PC ☐ Cost: $129

HARVEY
(division of BHC, Inc.)

☐ FirstMenu
User can create numerous menus with up to 20 selections each and nested within other menus. Incorporates customized front screen to show screen of dealers, user or company information. Paging facility. RAM-resident.
IBM PC, XT ☐ 128 KB req. ☐ Cost: $40

THE SOFTWARE BOTTLING COMPANY OF NEW YORK
6600 Long Island Expressway
Maspeth, NY 11378
(718) 458-3700
Flash-up Windows creates, controls and manages menus and help windows for every application and language. Uses windows to send repetitive keystrokes and commands automatically to program. Most application languages can send commands directly to Flash-Up Windows to control when windows should pop up. Creates consistent user interfaces across applications, includes password protection. Price $90.

INSURANCE SYSTEMS GROUP

☐ Mr. Menu

Executes batch files and MSDOS commands from series of menus. Runs on fixed disk. Manages over 1,000 files.

IBM XT, AT ☐ 70 KB req. ☐ Copies sold: 750 since 1985 ☐ Cost: $50

INTERACTIVE IMAGES, INC.

☐ Easel/Layout

Creates PC-based icon oriented human interfaces to existing mainframe applications and data bases for use by non-technical people.

IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 25 since 1984

K-QUAL SYSTEMS CONSULTING

☐ K-Qual Menu Manager and Security Plus

Organizes fixed disk software. Executes program or batch file from fixed or floppy disk. Prompted DOS command interface and on-line tutorial. Password security on any program. Passwords encrypted. Floppy disk boot protection.

IBM PC ☐ 128 KB req. ☐ Copies sold: 491 since 1984 ☐ Cost: $80

KELLER SOFTWARE

☐ Sideview: A PC DOS Security Menu

DOS shell and PC hard disk organizer. Allows programs to be run by pressing enter key. Password security, sensitive data and subdirectory access restrictions and system re-start restraints. Lotus 1-2-3, dBASE and WordStar compatible. Utilizes 12,000 bytes of hard disk space.

IBM PC ☐ 64 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $39

MAGEE ENTERPRISES

☐ Automenu

DOS menu system. Creates software management system. Accesses programs, batch files and DOS commands. User can switch between 2 monitors. Provides password protection and screen blanking. Supports unlimited menus, menu-building facility and use of mouse.

IBM PC, XT, AT ☐ 30 KB req. ☐ Copies sold: 7,200 since 1983 ☐ Cost: $46

MASTER CONTROL SYSTEMS, INC. (MCS)

☐ Master Control

Single/dual column menu system. Program or menu panel entry password security. Screen blank. DOS command processor for entry of 10 commands at once. Standard parm passing. File management. Directory sort. File rename.

IBM PC ☐ 256 KB req. ☐ Copies sold: 1,500 since 1983 ☐ Cost: $80

MICRO BUSINESS SYSTEMS, INC. (NY)

☐ Menu Mode

Selects a 20 item single list format. Enters help text for each menu item. Submit facility launches jobs and returns to menu when job is finished.

IBM PC ☐ 64 KB req. ☐ Copies sold: 45 since 1980 ☐ Cost: $75

MICRO DESIGN INTERNATIONAL, INC. (MDI)

☐ Command Assist

DOS manual disk. Creates help displays.

IBM PC, XT, AT ☐ Cost: $50

MICRO INTEGRATION SERVICES, INC.

☐ DOS Link

Menu-driven interface accesses applications and data on fixed disk. User-created menus and application names. Supports up to 99 menu selections. Password protection for up to 99 users restricts access to each menu selection.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $49

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ Mouse Menu

Reviewed Aug 1984 p. 74.

Initiates commands on PC application programs that formerly were entered with keyword.

IBM PC

MODTECH

☐ Hard Desk

Works as menu driver, file directory manager, file router and DOS interface. Provides commands in English, addressable with function keys. Organizes applications and data files on hard disks. Accesses programs that reside in any combination of directories.

IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $95

MOUSE SYSTEMS CORP.

☐ Designer Pop-up Menus

Mouse interface software for use with word processing, spreadsheets and DBMS. Edits existing pop-up menu with text editor word processor which creates ASCII text files and user-defined menus.

IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $50

NATIONAL SOFTWARE ASSOCIATES

☐ Menu One

Executes program in any disk drive, sub-directory or another disk. Works on floppy diskette and hard disk based computers.

IBM PC, XT, AT, Portable PC ☐ 64 KB req. ☐ Copies sold: 800 since 1985 ☐ Cost: $19

☐ Menu Two

Multi-level menus in tree-like structure.

IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 650 since 1985 ☐ Cost: $39

NELSON DATA RESOURCES

☐ Master Menu

Menu to install application systems and DOS procedures. Implements utilities such as security, backup, restore, install and test data.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $200

NYNEX SERVICE CO.

☐ AOS (Advanced Office System)

Standardized menu interface. Bypasses DOS commands and moves from program to program. Can be used on standalone PC or connected to network.

IBM PC ☐ 64 KB req. ☐ Copies sold: 1,200 since 1986 ☐ Cost: $100

OPT-TECH DATA PROCESSING

SEE AD ON PAGE 2

☐ On-Line Help

Integrates help windows into user's programs. Includes help manager. Interfaces to languages that allow user to access, display, help members and restore original screen contents.

IBM PC, AT, XT ☐ 64 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $149

ORACLE CORP.

☐ SQL*Menu

Menuing tool. Creates portable, customizable menu trees.

IBM PC

PECAN SOFTWARE SYSTEMS, INC.

☐ MenuMaker

IBM PC, XT, AT ☐ Cost: $40

QUADRATRON SYSTEMS, INC.

☐ Q-Menu

Menu generation package. Component of QSI's Q-Office. Calls strings of menus, with those menus calling other menus and programs. Providescancel command reverse order, stepping back through major menus. Includes highlighting, reverse display and underlining.

IBM PC ☐ 196 KB req. ☐ Copies sold: 75,000 since 1982 ☐ Cost: $295-$395

RAINBOW SOFTWARE SYSTEMS, INC.

☐ AMI Master Menu Interface

Creates main menus for running AMI software on a hard disk. Provides password security.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 160 since 1984 ☐ Cost: $60

SIGMA SOFTWARE, INC.

☐ Menu Plus+

Single keystroke access to DOS commands including format, copy, backup and restore. Allows for 676 options. Menu maintenance including optional password protection, color choices and hidden sub-menus. Parameter passing and batch file editor. Optional hold function prevents listings from flashing by.

IBM XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1986 ☐ Cost: $40

SOFT SYSTEMS

☐ Menu Master

Loads and executes user-defined programs, batch files, printer commands and system commands from custom defined menu with touch of function key.

IBM PC, XT, AT ☐ Cost: $59

SOFTSTAR INTERNATIONAL, INC.

☐ Menu MANager

Designed for hard-disk users. Creates menus and displays on powerup. Accesses program with single keystroke. Rearranges menu choices order. Assigns passwords. Displays free space, date, day, and time. Includes ASCII chart and notepad. Built-in editing, calculator and color screen control.

IBM PC ☐ 256 KB req. ☐ Copies sold: 400 since 1985 ☐ Cost: $79

SOUTHERN COMPUTER SYSTEMS, INC.

☐ MenuManager

Allows programs, commands and batch files to be organized into clean menu screens. Provides sample menus including DOS commands. Includes MenuEditor for control over messages, prompts and operations.

IBM PC, XT, AT ☐ 20 KB req. ☐ Copies sold: 1,500 since 1986 ☐ Cost: $50

STAR, INC. (SOFTWARE TECHNOLOGIES AND RESEARCH, INC.)

☐ Workstation Manager

Window-based menu system with integrated menu design. Executes COM, exe and bat files, displays and selects from file directories and writes DOS files. Library management provides menu documentation, directory listings, add, copy and delete and library compression.

IBM PC, XT, AT, 3270-PC ☐ 74 KB req. ☐ Copies sold: 5,000 since 1985 ☐ Cost: $125

STARBRIDGE TECHNOLOGIES CORP.

☐ DOS

Menu interface with one-key access to DOS commands. Custom menu building for application programs. Accesses on-line help prompts, graphics, DOS reference guide and Starbridge Electronic Support Hotline.

IBM PC, XT, AT, PCjr, Portable PC

SYNCHRONY SYSTEMS

☐ Backbone
Manipulates groups of menus. Links menus as desired, creating linear, tree-structured and circular organizations. Sets up 50 menus that give access to up to 450 programs. Supports multiple users.
IBM PC, XT ☐ Cost: $40

SYSTEMATE, INC.

☐ SysteMate
Menuing system with integrated security.
IBM PC ☐ 256 KB req. ☐ Cost: $80

GP TAURIO, INC.

☐ GP Thors
Access shell. Integrates program and data into single unified system. Uses standard menu format and tree structure diagrams. Features user-created scratch pad screens, customized help screens, menu generator, hard disk manager, box isolation feature and hardware status checking function.
IBM PC ☐ Cost: $40

3COM CORP.

☐ 3+Menus
Full-screen menu interface. Provides configurable access to network commands, application programs and DOS utilities.
IBM PC, XT, AT ☐ Introduced: 1986 ☐ Cost: $150

TRILLIAN COMPUTER CORP.

☐ VisuALL Plus
Windowing interface for Lotus 1-2-3, WordStar and DOS. Groups application commands in Macintosh-like pop-up menus. Makes menu selections from keyboard or by using mouse or touch screen.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $80

UNIVAIR, INC.

☐ UNI-LINK
Hard disk control menu (shell) linking all Univair programs together along with DBMS, word processing and telecommunications systems.
IBM PC, XT, AT ☐ 48 KB req. ☐ Copies sold: 3,200 since 1983 ☐ Cost: $75

OPERATING SYSTEMS

ACTION COMPUTER ENTERPRISE, INC.

☐ DPC/OS (Distributed Processing Computer Operating System)
Downloads CP/M to 8-bit or 16-bit user processors.
IBM PC ☐ 96 KB req. ☐ Copies sold: 3,000 since 1981 ☐ Cost: $595 and up

BOS NATIONAL, INC.

☐ BOS/LAN
LAN OS. Includes run time BOS/MicroCOBOL. Supports up to 64 users. Multi-processor, multi-file sharing.
IBM PC, XT, AT ☐ Cost: $1,500

☐ BOS/5, MBOS/5, BOS/NET
Disk OSs.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 10,000 since 1978 ☐ Cost: $500

☐ CBOS/5 (Concurrent)
Single-user OS. Includes run time BOS/MicroCOBOL.
IBM PC, XT, AT ☐ Cost: $900

CONCEPT OMEGA CORP.

☐ Thoroughbred/OS
BASIC OS. Supports 16 users. Creates 30 directories. Executes programs by disk sector caching. Includes ghost tasking, conditional and unconditional branching, error branching and B Tree file structure. Supports program overlays.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 40,000 since 1982 ☐ Cost: $795 and up

THE DESTEK GROUP

☐ OSRT-PC
Multi-tasking OS.
IBM PC ☐ 12 KB req. ☐ Cost: $490

☐ Portx
Real-time OS kernel for iAPX86 CPUs. Includes interrupt handling, memory allocation and interprocess communications. Run-time libraries for C, Pascal and FORTRAN and MSDOS utilities available.
IBM PC ☐ 6 KB req. ☐ Cost: $980

DIGITAL RESEARCH, INC.

☐ Concurrent PC DOS
Reviewed Mar 1985 p. 45; Dec 1985 p. 52.
Runs four PCDOS or CP/M applications simultaneously. Supports Lotus 1-2-3, Wordstar and dBASE II. Supports windowing, foreground and background processing and cutting and pasting. User can attach 2 terminals to the serial ports for multi-user capability.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 20,000 since 1984 ☐ Cost: $295

DIGITROL COMPUTERS, INC.

☐ pcShare
Multi-user OS. Supports up to 6 users running Lotus 1-2-3, dBASE or WordStar. Runs compiled BASIC, Pascal and C programs with DOS compatible record locking.
IBM XT, AT ☐ 640 KB req.

DISC

☐ DBL/MSDOS/PCDOS
Allows development of programs of any size without overlaying. Random and sequential file-access techniques. ISAM, fixed-point decimal data type, symbolic debugger, subroutine libraries linking, and object libraries creation. Chains to non-DBL programs and interfaces subroutines written in other languages.
IBM PC

TASKVIEW™

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EXECUTION SPEED?

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We designed Taskview with efficiency in mind. During normal operation, TASKVIEW hides behind DOS, providing you with control of up to 10 concurrent or non-concurrent programs. Just the touch of a key instantly switches a program to the foreground. Included desktop utilities let you cut and paste from program to program. Simple to use and reasonably priced, no well equipped PC user should be without it.
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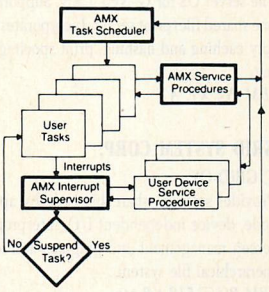
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(604) 734-2796
Telex: 04-55670

CIRCLE NO. 316 ON READERS SERVICE CARD

DYAD TECHNOLOGY CORP.

☐ PC/VRTX
Board-based. Provides 64kb RAM and utility programs, IBM Macro Assembler and Lattice C Language interfaces. Supports up to 448 kb of RAM and up to 128kb of EPROM.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 20 since 1984 ☐ Cost: $1,495

DYNACON COMPUTERS, INC.

☐ BITS
BASIC OS. Supports indexed contiguous, tree structured files.
IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 350 since 1977 ☐ Cost: $3,500

EMULEX CORP.

☐ DCP/Exec
Real-time, event-driven OS for Emulex's DCP-88/VM communications coprocessor board. Allows communications channels supported by DCP-88/VM to be configured with different protocols to run communications tasks concurrent with another application on PC.
IBM PC

FARADAY ELECTRONICS

☐ MS9200
Sold in support of Faraday motherboards.
IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $50

FILLMORE SYSTEMS, INC.

☐ Utopia FORTH
OS and language.
IBM PC ☐ 128 KB req. ☐ Copies sold: 6 since 1983 ☐ Cost: $395

GATEWAY COMMUNICATIONS, INC.

☐ Advanced Netware 286/G
File server OS for G/NET LAN. Supports 100 PC workstations and 32 dedicated file/print servers. Provides electronic mail, directory caching and hashing, disk optimization, security, print spooling, file/record locking and handling, print queuing and application development tools.
IBM PC, XT, AT ☐ Cost: $2,095

☐ Advanced NetWare/G
Network and file server OS. Supports 100 workstations. Allows up to 8 file servers on network. Supports DOS 3.1. Incorporates electronic mail, directory caching and hashing, print spooling and file/record locking.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $1,595

☐ Netware/G
File server OS for G/NET LAN. Supports 50 workstations and one shared file/print server. Incorporates electronic mail, directory caching and hashing, print spooling and file/record locking.
IBM PC, XT, AT

GRID SYSTEM CORP.

☐ GRiD-OS
Provides security, shareable code by applications, relocatable code, device independent I/O, interprogram communications, screen management and graphics utilities, tailorable I/O and hierarchical file system.
IBM PC ☐ 512 KB req.

GULF DATA, INC.

☐ ARABDOS
Arabic/English data processing and DBMS. Develops bilingual applications. Writes Arabic/English programs in BASIC, COBOL, FORTRAN, Pascal, C or Assembly. Creates Arabic/English data base systems using dBASE, MDBS and Access Manager.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $675

HUNTER & READY, INC.

☐ VRTX (Versatile Real-Time Executive)
Reviewed May 1986 p. 75.
Develops and maintains embedded microprocessor applications. Implements critical kernel services of real-time OS. Standalone or in combination with other components in applications that require I/O and/or file management facilities.
IBM PC ☐ 4 KB req. ☐ Copies sold: 1,000 since 1982

HURRICANE SYSTEMS, INC.

☐ Master Operating System
Includes programming language, editor and system utilities. For single high-level language. Optimized for business applications. Contains table-driven data formatting commands for exploding data elements into forms and disk file commands for processing ISAM-oriented data base.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1978 ☐ Cost: $995

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Advanced NetWare/C
IBM no. 6404-010. Network Control OS utilizing IBM PC Cluster Adapter and allowing IBM PC Network and IBM PC Cluster to be internetworked.
IBM PC, XT, AT, Portable PC, PCjr ☐ 256 KB req. ☐ Cost: $1,595

☐ Disk Operating System and Basic Language Extension
IBM no. 6024-061.
IBM PC ☐ Cost: $60

☐ DOS (Disk Operating Subsystem Version 1)
IBM no. 6024-001.
IBM PC ☐ Cost: $40

☐ DOS (Disk Operating System Version 2.1)
IBM no. 6024-120.
IBM PC, XT, PCjr ☐ Cost: $65

☐ DOS 3.0
Reviewed Dec 1984 p. 74.
IBM no. 6024-180.
IBM PC, XT, PCjr, Portable PC, AT ☐ Cost: $65

☐ DOS 3.1 (PC Network)
IBM PC, XT, AT, PCjr, Portable PC ☐ Cost: $65

☐ DOS 3.2
IBM no. 6280-057. Upwardly compatible from DOS 3.1. Supports IBM PC and Token-Ring Networks. New commands added including replace designed to replace all occurrences of a file on disk and xcopy designed to allow copying of files from multiple subdirectories where source and target drives are of different densities.
IBM PC, XT, AT, Portable PC, PCjr, Convertible ☐ 128 KB req. ☐ Cost: $95

☐ PC/IX (Personal Computer Interactive Executive)
Reviewed May 1985 p. 54; Jul 1985 p. 80.
IBM no. 1753-369. Provides UNIX-compatible processing and hierarchical file structure. Executes sequential async and background processes. Controls and tracks changes in programs and documents. Supports or emulates 8087 or 80287 Math Co-processor.
IBM PC, XT, AT, XT/370 ☐ Cost: $900

☐ RT PC AIX (Advanced Interactive Executive) Operating System
IBM no. 5669-061. UNIX-like OS with demand-paged virtual memory management, device-independent I/O, controlled direct access to display devices and user extendable realtime interrupt handling. Multi-tasking, single or multi-user.
IBM RT PC ☐ Cost: $3,400

INDUSTRIAL PROGRAMMING, INC.

☐ MTOS-86/PC
Allows PC to work for data acquisition and control applications.
IBM PC, XT ☐ 10 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $495

INFORMATION PROCESSING, INC.

☐ PC-BLIS
Multi-user OS and COBOL compiler. Supports up to 3 BLIS/COBOL users or 2 BLIS/COBOL users and 1 DOS user concurrently.
IBM XT, AT

INTERACTIVE SYSTEMS CORP. (CA)

☐ IS/3
General-purpose, timesharing OS. Supports program development, document preparation and text processing. Includes system management facilities and queuing system.
IBM AT/PC/IX

JMI SOFTWARE CONSULTANTS, INC.

☐ C EXECUTIVE
ROMable OS kernel. Includes formatted I/O, pre-emptive scheduling, interrupt driven I/O and shared text facilities. Accommodates C and Pascal languages. Includes configurable memory cache and block size, up to 32,000 named files and file transfer.
IBM PC, AT ☐ 5 KB req. ☐ Copies sold: 5,000 since 1981 ☐ Cost: $575

KADAK PRODUCTS, LTD.

SEE AD ON PAGE 351

☐ AMX Multitasking Executive
Reviewed Apr 1986 p. 99.
For dedicated control and communications systems. Provides prioritized task scheduling and message passing. Coordinates execution of tasks in response to external events. User-configurable with optional modules.
IBM PC ☐ 4 KB req. ☐ Introduced: 1979 ☐ Cost: $800-$1,600

LIFEBOAT ASSOCIATES

SEE AD ON PAGE 291

☐ SB-86
MSDOS for S-100 business architecture.
IBM PC ☐ 64 KB req. ☐ Cost: $350

LINK DATA, INC.

☐ UNI-DOS
Multi-user, multi-tasking capabilities. Language compilers run library of manufacturing and accounting software. Source-to-source compatible with DIBOL, CADOL and COBOL. Priority scheduler. Disk file management. Concurrent file sharing. Record/file locking. Full screen editor. Symbolic debugger.
IBM PC, XT, AT ☐ 128 KB req.

MAXEY SYSTEMS, INC.

☐ GASS (General Accounting & Scientific System)
Numbered OS. Written in Assembly and FORTRAN. Written as control sequence establishing CP/M that decodes high ordered operations. Handles I/O as store and forward packet switching network.
IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 12 since 1976

MDS QANTEL, INC.

(a Mohawk Data Sciences Co.)
☐ Best/AOS
OS. Allows Qantel applications to be run in PC environment.
IBM PC

MERIDIAN SOFTWARE SYSTEMS, INC.

☐ NetOS
Takes advantage of computer networks and provides distributed processing. Uses network to match work with available resources.
IBM PC

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ MS-DOS
Single-user and multi-user 16-bit OS.
IBM PC ☐ 64 KB req. ☐ Copies sold: 600,000 since 1981

☐ XENIX Operating System
Commercial adaptation of UNIX OS. Includes timesharing, software development and text processing system. Provides visual shell, system maintenance utilities, record/file locking, source code control, semaphores and scatter-loaded processes.
IBM PC ☐ Copies sold: 25,000 since 1981

MICROWAY, INC.
SEE AD ON COVER 3

☐ RTOS
Configured version of iRMX-86 OS. Re-entrant DOS. Includes Intel Assembler, ASM-86. Utilities include LINK-86, LOC-86 and LIB-86. Loads anywhere in RAM. Resolves external references between run-time modules. Supports overlays with single root job by linker.
IBM PC, XT ☐ 512 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $600

MOLECULAR COMPUTER

☐ n/STAR
File sharing and interprocessor communications. Includes file server module. Handles communication over high-speed m/BUS interprocessor link. Allows processors operating independently to share files and communicate.
IBM PC ☐ 64 KB req. ☐ Copies sold: 6,500 since 1981

NETWORK CONSULTING, INC.

☐ p-System
Includes DOS file support to read and write files on p-System and PCDOS. Supports Corvus Constellation II, Tallgrass and Davong hard disks. Allows 640 Kb total system memory and auto booting.
IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Copies sold: 2,000 since 1982 ☐ Cost: $595-$845

NOVELL, INC.

☐ Advanced NetWare/ARCNET
Combines Advanced NetWare OS with Standard Microsystem's ARCNET-PC Network Controller module. Allows concurrent program execution, file exchange, electronic mail and network printer sharing. Supports IBM Token-Ring Network.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1985

☐ Advanced Netware/Ethernet+
LAN program. Combines Advanced Netware OS with EtherLink plus card and keycard.
IBM PC, XT, AT ☐ 192 KB req.

☐ Advanced NetWare/G-Net
Combines Advanced NetWare OS with Gateway Communications interface module. Includes remote system reset, print spooling and system security. Used for distributed processing, directory caching/hashing, file caching and elevator seeking.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1985

☐ Advanced NetWare/S-Net
LAN which supports multiple file servers, gateways, bridges, remote workstations, 2GB of disk storage and 5 printers. Accommodates 100 workstations per file server.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 4,300 ☐ Cost: $12,295

☐ Advanced NetWare/286
LAN OS. Supports multiple file servers, DOS 3.1, gateways, bridges and remote workstations. Accommodates 100 workstations per file server. Includes electronic mail. Supports IBM Token-Ring Network, 3Com EtherLink, AT&T StarLAN and Standard Microsystems Arcnet.
IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $1,695

☐ Advanced NetWare/86
Handles transaction processing, file/record locking and direct communication between networked stations. Disk/directory caching and hashing, and elevator seeking. Supports DOS 3.1, bridges, gateways, remote workstations and multiple file servers. Works on IBM Token-Ring Network, 3Com Etherlink, AT&T StarLAN and Standard Microsystems Arcnet.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1983 ☐ Cost: $1,595

☐ NetWare Server 286B; 286A
Manages disk storage and data communications on network. Bridges 4 different LANs. Includes Advanced NetWare OS. Provides 366 MB (286B)/30 MB (286A) of internal storage and 2 GB of external storage. Supports IBM Token-Ring Network.
IBM PC, AT, XT ☐ 192 KB req. ☐ Cost: $9,395 (286A); $13,995-$18,595 (286B)

☐ NetWare Server 68B
File server. Supports NetWare/68 OS. Upgrades 24 networking ports, 2 GB of disk storage, 8 MB of memory and 5 shared printers. Supports IBM Token-Ring Network.
IBM PC, AT ☐ 192 KB req. ☐ Cost: $7,000-$8,000

☐ SFT NetWare (System Fault Tolerant NetWare)
Designed to help increase failure resiliency for LANs. Supports multiple file servers, gateways, bridges, DOS 3.1, remote workstations, 5 printers and 2GB of hard disk storage. Accommodates 100 workstations per server. Electronic mail. Compatible with 3Com EtherLink, AT&T StarLAN, IBM networks and Standard Microsystems Arcnet.
IBM PC ☐ 192 KB req. ☐ Introduced: 1986 ☐ Cost: $2,495

PANATEC, INC.
(a Decision Industries Co.)

☐ Pana/BASIC
BASIC language processor. Sequential, random and ISAM file management. String handling and graphics. Includes file utilities, intercomputer communications, sort and merge. Interpreter and compiler versions available.
IBM PC ☐ 48 KB req. ☐ Copies sold: 5,000 since 1977 ☐ Cost: $100

PECAN SOFTWARE SYSTEMS, INC.

☐ Power System Bootable Operating System
For text processing and application execution. Combines with p-System language for application development. Includes screen editor, file manager, Turtlegraphics, printing and configuration utilities, command menu, library manager and p-machine emulator.
IBM PC, XT, PCjr, AT ☐ 64 KB req. ☐ Copies sold: 250,000 since 1980 ☐ Cost: $100

PHOENIX TECHNOLOGIES, LTD.

☐ ROM BIOS
Emulation for IBM PC, XT ROM BIOS. Routines encoded into read-only non-volatile memory. Initializes hardware. Manages keyboard, CRT serial port, printer, floppy diskette drives and timer.
IBM XT, AT ☐ 8 KB req. ☐ Copies sold: 15 since 1984 ☐ Cost: $100,000-$400,000

PICK SYSTEMS

☐ PICK
Relational data base management OS for business oriented applications. Virtual memory manager, report generator, file-memory manager, data security, variable length data architecture, multi-value and sub-values within data element and communications facilities.
IBM PC, XT, AT ☐ Copies sold: 75,000 since 1972

QUANTUM SOFTWARE SYSTEMS, LTD.

☐ QNX 2.0 - Ultimate Distributed Network Operating System
Reviewed May 1985 p. 54.
Fourth generation LAN support. Enables task to access serial ports, printers or disks on network. Provides file security. Supports distributed processing and devices. Allows transparent access to DOS file system partition and floppies.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 22,000 since 1982 ☐ Cost: $900

REAL-TIME COMPUTER SCIENCE CORP. (RTCS)

☐ AT/RTX
Configuration of Intel's iRMX86 OS.
IBM AT ☐ 512 KB req. ☐ Copies sold: 2,500 since 1985 ☐ Cost: $1,495

☐ PC/RTX
Implementation of Intel's iRMX86 OS preconfigured to run on IBM PC and XT. Based on event-driven scheduler. Provides foundation for process control, office systems, data communications and medical electronics. Includes hierarchical error handling.
IBM PC, XT ☐ 512 KB req. ☐ Copies sold: 3,200 since 1983 ☐ Cost: $995

☐ RTX286
Multi-user OS. Manipulates IAPX 80286 protected mode 16M addressibility. Processes different randomly-occurring events. Protection features include access rights that can be assigned to blocks of memory and hardware traps. Applications include medical patient monitoring, energy control and factory automation.
IBM PC, AT ☐ Cost: $2,795

RYAN-MCFARLAND CORP.

☐ RM/COS
Multi-user/tasking OS optimized for RM/COBOL application programs. Provides record level locking, data integrity across power failures, data file compression, sort/merge, data structuring, interactive and batch job control commands and a 2780/3780 communications option.
IBM PC, XT, AT ☐ 150 KB req. ☐ Copies sold: 1,700 since 1980 ☐ Cost: $2,950

THE SANTA CRUZ OPERATION, INC. (SCO)

☐ SCO XENIX V Operating System
Reviewed May 1985 p. 54; Jun 1985 p. 129.
Includes system kernel and over 100 utility programs with text editor. C Merge compiler allows developing software for DOS and XENIX from single set of source code. Contains linker, source code control system, C libraries, formatters and spelling checker.
IBM PC, XT, AT ☐ 384 KB req. ☐ Introduced: 1984 ☐ Cost: $195-$1,295

SENTINEL COMPUTER CORP.

☐ Data Base Operating System
Supports up to 32 terminals and printers. Includes print spooling, job control procedures and 1024 data files. Operates in async serial mode. Integrates with Sentinel DATABASE system. Allows time-sharing with data and program security.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 300 since 1980 ☐ Cost: $3,850

SOFTWARE KINETICS, LTD.

☐ VENIX
System V UNIX.
IBM PC ☐ 128 KB req. ☐ Introduced: 1981 ☐ Cost: $495-$1,995

THE SOFTWARE LINK, INC.
SEE AD ON PAGE 265

☐ MultiLink Advanced
Reviewed Dec 1985 p. 52.
Interfaces with PCDOS 3.1. Supports 8 users. Runs text-oriented software designed for PC. Runs concurrent tasks. Partition access facility allows switching from task to task. Interfaces with non-CRT devices. Record-locking, file sharing, and dial-up facility. Supports IBM NETBIOS communications interface standard.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 25,000 since 1983 ☐ Cost: $495

SOFTWARE 2000, INC. (CA)

☐ TurboDOS
Allows mixing 8- and 16-bit processors. Networking provides file and record interlocks, multi-queue print spooler, failure detection and recovery. Performs diagnostic self-test at start-up. Optimizes processing of console status and console output functions.
IBM PC ☐ 64 KB req. ☐ Copies sold: 30,000 since 1981 ☐ Cost: $250-$1,250

☐ TurboDOS/PC
IBM PC ☐ Cost: $100

SOLUTIONWARE CORP.

☐ Task Lord
Controls up to 256 levels of async, external events. Performs task and event management, communication, interrupt handling, memory pool management and timer management. Supports process control, security systems, robotics, instrumentation, test and measurement.
IBM PC☐2 KB req.☐Copies sold: 5 since 1984☐Cost: $1,000

THE TARI GROUP

☐ TariSoft BASIC
Multi-user/tasking OS. Runs multi-user Business BASIC programs and single-user MSDOS/PCDOS applications concurrently. Utilizes direct data interchange to retrieve information for word processing, spreadsheet and DOS programs. Employs ghost tasking and spooling. Includes infinite variable length, floating point and file/record locking.
IBM PC, XT, AT☐256 KB req.

TELECOMPUTE INTEGRATED SYSTEMS, INC.

☐ APL, IDEAL APL
Includes language interpreter, communications and DBMS capabilities.
IBM PC☐64 KB req.☐Copies sold: 500 since 1979☐Cost: $295-$1,195

THEOS SOFTWARE CORP.

☐ Theos 286
Multi-user/tasking OS for Intel 80286 microprocessor. Provides password protection and file/record locking. Supports up to 4 printers, 1 to 6 users and keyed/indexed file systems.
IBM AT☐384 KB req.☐Introduced: 1985☐Cost: $595

☐ Theos 286-V
Multi-user/tasking OS. Addresses up to 16 MB of real memory. Supports 10 to 32 users. Provides data protection, task concurrence, 3-level file directories and B-tree ISAM files. Runs in protected virtual address mode of Intel's 80286 microprocessor.
IBM AT☐512 KB req.☐Introduced: 1986☐Cost: $695

☐ Theos 8
Multi-user OS based on Z80 microprocessor designed for vertical market business environments. Supports 2 to 6 users.
IBM XT, AT☐64 KB req.☐Copies sold: 50,000 since 1981☐Cost: $495

☐ Theos 86
Multi-user/tasking OS for Intel 8086/8088/80186 processors. Provides password protection and file/record locking. Allows up to 4 printers. Supports keyed/indexed file systems.
IBM XT☐384 KB req.☐Copies sold: 4,000 since 1984☐Cost: $495

THE ULTIMATE CORP.

☐ Ultimate
OS with DBMS capabilities. Turns around new applications or revises existing ones. Performs character moves, searches and compares. Expands/contracts variable length files, records and fields. Virtual memory. Includes Ultimate update, word processor, business graphics, recall and PROC processor.
IBM PC, XT

UNISOURCE SOFTWARE CORP.

☐ VENIX/86 IBM PC/UNIX
Reviewed May 1985 p. 54.
Organizes hierarchical files and designates security level of files. Shares resources, storage and printer of single PC. Includes four editors, C-compiler, BASIC, UC Berkeley enhancements, documentation preparation programs, assembler, spelling checker and UNIX to UNIX communications.
IBM PC, XT, AT☐192 KB req.☐Introduced: 1983☐Cost: $800-$1,075

UNITED STATES SOFTWARE CORP.

☐ USX51 Executive
For embedded applications. Includes dynamic task management, adjustable resource allocation, inter-task communication, priority task scheduling and free memory management. Customizes to required job.
IBM PC☐3 KB req.☐Introduced: 1984☐Cost: $1,950

☐ USX68K
Includes dynamic task management, user-defined resource allocation, inter-task communication, priority task scheduling and free memory management.
IBM PC☐3 KB req.☐Introduced: 1985☐Cost: $1,950

☐ USX86 Executive
For embedded applications. Includes dynamic task management, adjustable resource allocation, inter-task communication, priority task scheduling and free memory management. Customizes to required job.
IBM PC☐3 KB req.☐Introduced: 1985☐Cost: $1,950

☐ USX96 Executive
For embedded applications. Includes dynamic task management, adjustable resource allocation, inter-task communication, priority task scheduling and free memory management. Customizes to required job.
IBM PC☐3 KB req.☐Introduced: 1984☐Cost: $1,950

VENTURCOM, INC.

☐ VENIX
Multi-tasking, multi-user OS. Handles async raw I/O, high speed inter-process communication and record locking. Supports large network protocol drivers including TCP/IP. Includes compilers for FORTRAN, Pascal and C programs. Emulates floating-point arithmetic coprocessor. Offers graphics.
IBM PC, XT, AT☐256 KB req.☐Copies sold: 4,000 since 1980☐Cost: $195

☐ VENIX/System V
UNIX System V implementation. Handles interprocess communication with shared data segments, async I/O for high speed data throughput and real-time priorities. Supports large network protocol drivers including TCP/IP, compilers for FORTRAN and large C programs.
IBM PC, XT, AT☐256 KB req.☐Copies sold: 4,000 since 1985☐Cost: $1,195

WANG LABORATORIES, INC.

☐ PC System Software
Consists of Enhanced MSDOS plus Interpretive BASIC.
IBM PC☐Cost: $200

☐ PC UCSD-p Runtime System
IBM PC☐Cost: $100

WATERLOO MICROSYSTEMS, INC.

☐ Port Network Operating System
Multi-tasking network OS. Integrated LAN and inter-LAN capabilities. Multiple file, print and communication servers. Allows DOS 3.1, 3.0, 2.1 and 2.0 to run as guest OS. Features spooling and transparent access. Supports VRAM card providing a full 640KB space for application processing.
IBM PC, XT, AT☐640 KB req.☐Copies sold: 890 since 1985☐Cost: $1,695

WENDIN, INC.

☐ PCUNIX
UNIX-like OS. Incorporates Bourne and C shells. Multi-user, multi-tasking support. Runs program images in .comand.exe formats.
IBM PC, XT, AT☐256 KB req.☐Copies sold: 1,000 since 1986☐Cost: $99

☐ PCVMS
Multi-tasking, multi-user OS designed to access DEC's VAX/VMS command set. Supports dynamic mix of timeshared and real-time processes with event-driven scheduler. Runs program images in .comand.exe formats. Allows porting of VAX/VMS source programs to IBM PCs.
IBM PC, XT, AT☐256 KB req.☐Copies sold: 1,000 since 1985☐Cost: $99

WHITESMITHS, LTD.

☐ Co-Idris
Cohabitating OS with VMS and MS/PC DOS.
IBM PC☐128 KB req.☐Copies sold: 500 since 1984☐Cost: $1,000

☐ IDRIS Operating System
UNIX-compatible OS for microprocessors. Supports file system and object file formats. Event-driven resident includes scheduling. Provides solid host base for developing cross software. Supports read-only devices. Includes read-only bootstrap device and root file system.
IBM PC☐128 KB req.☐Copies sold: 10,000 since 1979☐Cost: $1,000-$3,500

MARK WILLIAMS CO.

☐ Coherent
Reviewed May 1985 p. 54.
Compatible with UNIX V.7 at system call level. Includes over 100 utilities and subroutine library to permit tailoring of system.
IBM PC☐256 KB req.☐Introduced: 1980☐Cost: $495

ZENITH DATA SYSTEMS

(subsidiary of Zenith Electronics Corp.)

☐ ZDOS
Permits I/O to different devices. Error recovery procedure. Relocatable linking loader. Blocks and reblocks physical sectors. Minimizes access to directory track. Provides for duplicate directory information. Swaps disks without logging in.
IBM PC☐128 KB req.

OPERATING SYSTEM ENHANCEMENTS

ACS

☐ MATCHPOINT/86
PCDOS and MSDOS OS access program library under CP/M-86. Acts as if all programs run under one OS. Provides unified file structure.
IBM PC☐9 KB req.☐Cost: $199

ADVANCED COMPUTER TECHNIQUES CORP.

☐ SkyView
Doubles number of lines displayed on PC monitor. Runs 8 DOS tasks concurrently without hardware modification, assigning processing priorities for each. Provides various windowing utilities. Configures regions for memory size, processing priority, start time and interval time for application activation.
IBM PC☐66 KB req.☐Cost: $300

ALOS MICROGRAPHICS CORP.

☐ Alosware
CAR system for document retrieval from rollfilm images from microform reader/printer equipment. User-specific search parameters.
IBM PC, XT

ALPHA SOFTWARE CORP.

☐ Keyworks
Reviewed Oct 1985 p. 131.
Keyboard utility. Allows the user to create keyboard macros, menus, perform DOS function from within other programs, encrypt files for security. Includes macro editor and printer control. Performs cut and paste.
IBM PCjr, PC, XT, AT, 3270-PC☐64 KB req.☐Copies sold: 10,000 since 1985☐Cost: $90

AST RESEARCH, INC.
SEE AD ON PAGES 161/172/173/174/175

☐ SuperPak
Includes SuperDrive, Fastdisk and SuperSpool. Creates electronic RAM drives emulating floppy and hard disks via SuperDrive and Fastdisk respectively. SuperSpool runs print jobs while continuing to enter/process data.
IBM PC, AT, XT ☐ Introduced: 1985 ☐ Cost: $45

ASTRO CORP.
Information Technology Division

☐ HAL
Commercial interface system manager for multiple OSs. Provides for network access and security locks. Includes multi-user system managers' control system.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $500

☐ SEIZE/RELEASE
Multi-user to single-user conversion and release.
IBM PC ☐ 64 KB req. ☐ Copies sold: 3,000 since 1982 ☐ Cost: $198

☐ XRAY
System management tool for multi-user and network system management, control and debugging.
IBM PC ☐ 64 KB req. ☐ Copies sold: 3,000 since 1981 ☐ Cost: $99

AUSTEC, INC.

☐ ACEBridge (Austec Conformable Environments)
Record-oriented, I/O system for general purpose and proprietary OSs which implements ANSI standard for file systems. Includes file management system, distributed data access methods, data/program portability, OS/language interfaces, support for networking/native ACE COBOL programs.
IBM PC

AWESOME TECHNOLOGY, INC.

☐ Multiple Choice
Accommodates multiple programs in memory. Integrates application programs. Batch files and I/O redirection. Data capture facility.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $99

BOURBAKI, INC.
SEE AD ON PAGE 41

☐ 1 DIR
Reviewed Nov/Dec 1983 p. 30.
Directory command system. Composes and executes commands using cursors to point to commands and file names. Eliminates typing of commands by selecting file names from screen-displayed disk directory.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 20,000 since 1983 ☐ Cost: $95

CATSPAW, INC.

☐ UDI/DOS
Provides program development environment similar to Intel Series III MDS under MSDOS. Runs Intel UDI-compatible translators, utilities, program maintenance tools, linkers and debuggers. Supports path command, pipes, I/O redirection and 8087.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $300

CHORUS DATA SYSTEMS

☐ PhotoBase
OS extension merges pictures with data base systems for applications such as personnel files, real estate listings, product cataloging, credit verification and photo/data archives.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 450 since 1984 ☐ Cost: $295

COMMUNICATION MACHINERY CORP.

☐ Link Level Driver
Allows ENP to act as link level Ethernet controller and utilize TCP/IP resident in 4.2 BSD UNIX or protocols contained in OS.
IBM PC, AT ☐ Cost: $100

COMPUFIRM CORP.

☐ PL/M Connection
Provides interface between IBM PC and Intel's PL/M compiler. Accesses PC's DOS, BIOS and graphic functions. Includes development support for software control of PC peripherals.
IBM PC ☐ 256 KB req. ☐ Copies sold: 75 since 1985 ☐ Cost: $295

COMPUTING

☐ MENU/POWER
Twenty-command front-end for CP/M, CP/M-86 and MSDOS. Copies, erases, reclaims, renames and tests disks for bad blocks. Sorts directory 4 ways. Password protects sensitive files. Autoboot, built-in disk reset and optional user customizations.
IBM PC ☐ 16 KB req. ☐ Copies sold: 12,275 since 1983 ☐ Cost: $149

☐ POWER
OS with 55 utility front-end. Allows direct access and change of disk and memory locations. Test checks tracks and sectors on disk and determines location of bad sectors. Fixes glitched directories or data, sorts directory four ways. Password protection.
IBM PC ☐ 16 KB req. ☐ Copies sold: 8,000 since 1982 ☐ Cost: $169

CONNECTICUT SOFTWARE SYSTEMS CORP.

☐ DOS Commander
Reviewed Oct 1984 p. 36.
Provides 40 function keys, 20 programmable keys, and directory/display. Handles file look-up, command make-up, and file deletion. RAM disk. Arranges files and searches alphabetically. Bootable from autoexec.bat file.
IBM PC, XT, PCjr, AT, 3270-PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $80

CXI, INC.
SEE AD ON PAGES 266/267

☐ IBM 3270 PC API
Allows IBM 3270-PC application programs to run on CXI-enhanced PCs.
IBM 3270-PC

CYBERENGINEERING CORP.

☐ CyberTools DOS Utilities Library
Provides ASM macros to access BIOS functions. Inputs to batch file. Transfers color and mono from DOS or BASIC compiler patches. Resident command COM generator. Patches to activate command COM in subdirectories. Disk sector modifier. Supports color setting via batch file.
IBM PC

DATEM, LTD.

☐ dDCM 870
MSDOS ladder control language. Creates ladder programs which operate on Datem dDCM331 BITBUS control node. Allows dDCM331 to operate in numerous programmable controller environments. Provides screen-oriented editor supporting 100 ladder rungs with 8 ladder elements per rung.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $1,275

DIGITAL RESEARCH, INC.

☐ GEM Desktop
Icons, drop-down menus, scroll bars and windows replace commands needed for copying, deleting, opening and closing a file. Includes applications environment for other GEM products.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $50

DRASTECH SOLUTIONS

☐ UPDCLK
Reads clock/calendar on AST and Quadram multi-function boards. Displays date/time and puts date/time in DOS. Determines whether boards are missing or contain erroneous data and/or time values.
IBM PC ☐ Cost: $795

EASTERN COMPUTERS, INC.

☐ CCGTS (Chinese Character Generator Transparency Software)
Allows user to input, display and print Chinese characters. Programs that were originally written in English will still display English prompts, but Chinese prompts may be added. Requires ECI's CCG.
IBM PC ☐ 192 KB req. ☐ Copies sold: 800 since 1985 ☐ Cost: $295

EMERALD SYSTEMS CORP.

☐ Hard Disk
Installs and runs user's OS on Emerald products. Menu selections partition disks into 1-24 volumes, configures system for LAN and provides password security. OS boots from hard disk.
IBM PC, XT, AT

EMULEX CORP.

☐ Insta-Drive
RAM resident disk simulator for 320 KB and 360 KB of memory. Compatible with PCDOS command library. Accesses resident reference programs and data files.
IBM PC ☐ 320 KB req. ☐ Introduced: 1982

GETC SOFTWARE, INC.

☐ DOS Services
Provides separate windows for command menu, directory, and drive and directory data display. Creates, removes and renames directory. Sorts files by name, extension, size and date. Displays text and binary files. Supports up to 26 drives.
IBM PC ☐ 128 KB req. ☐ Cost: $50

GRID SYSTEM CORP.

☐ Record/Playback
Generates keystroke file, providing playback of keystrokes for single program or program set. Keystroke editing. Displays screen images for sideshow. Pause and slowdown.
IBM PC

HAI SOFTWARE, INC.

☐ HAI*LINE Run Time
Interpreter and utilities for HAI microware. Includes menus, disk directory, file copy, allocate, delete and reorganize. Available in foreign languages.
IBM PC ☐ 128 KB req. ☐ Copies sold: 8,000 since 1976 ☐ Cost: $50

THE SOFTWARE BOTTLING COMPANY OF NEW YORK
6600 Long Island Expressway
Maspeth, NY 11378
(718) 458-3700
Flash-up Windows creates, controls and manages menus and help windows for every application and language. Uses windows to send repetitive keystrokes and commands automatically to program. Most application languages can send commands directly to Flash-Up Windows to control when windows should pop up. Creates consistent user interfaces across applications, includes password protection. Price $90.

HAMMER COMPUTER SYSTEMS, INC.

☐ E-Z-DOS-IT
Reviewed Dec 1985 p. 52.
Runs 4 programs at once on IBM PC or compatible. Processes communications in multi-tasking mode. Integrates with Lotus 1-2-3, dBASE II, WordStar and PFS:File.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 5,000 since 1985 ☐ Cost: $60

HARVEY
(division of BHC, Inc.)

☐ ProDisk Control
Creates, saves, changes menus to run applications, performs DOS operations or selects other menus at a keystroke. Password protected menus and menu selections. Includes installation batch files for floppy and hard disk systems, menuing system, framed DOS prompt, time and date display, and paging facility.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 3,000 ☐ Cost: $90

HELMSMAN SYSTEMS, INC.

☐ H-CHAMP
Commercial user/system interface. Applications environment. Provides utility tools. LAN compatible.
IBM PC ☐ 512 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $995

BOB HOWARD

☐ Still River Shell
Visual PCDOS shell. Converts directory into menu. Finds, views, copies, moves, deletes and lists files/directories with single key command. Systemwide find, file view, display of directory trees and user-defined command extensions.
IBM PC, XT, AT ☐ 76 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $39

HUMAN COMPUTING RESOURCES CORP.

☐ Hi
Visually-oriented interface to UNIX. Predefined and user-defined single keystroke commands for UNIX use. Navigational/productivity tool. Includes direct entry and UNIX shell commands, in-line command and history editing.
IBM PC, AT, RT ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $500 and up

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ DOS 3.0 Upgrade to 3.1
IBM no. 6024-212.
IBM PC, XT, AT, PCjr, Portable PC ☐ Cost: $30

☐ PC/IX Upgrade to 1.1
IBM no. 6317-009.
IBM PC/PC/IX ☐ Cost: $40

☐ RT PC AIX VRM (Virtual Resource Manager)
IBM no. 5669-060. Provides device independence and system expandability. Collection of processes, device drivers and run-time routines that combine to support virtual machine interfaces and architected interfaces to an OS.
IBM RT PC ☐ Cost: $1,000

☐ RT PC Data Management Services
IBM no. 5669-059. Extends AIX OS file and directory system, providing multi-user data storage structure. Provides record management services, field management services, multiple indexing of files, multiple-request data sharing across files and file utilities.
IBM RT PC ☐ Cost: $500

☐ RT Personal Computer/Personal Computer AT Coprocessor Series
IBM no. 5669-057. Executes AT BASIC and object code programs. Concurrent execution with AIX OS. Shared display and fixed disk. Connectivity to other IBM systems via hardware adapters. Shared main memory. Optional support of AT math coprocessor.
IBM RT PC, AT ☐ 512 KB req. ☐ Cost: $550

☐ VM Bond plus Professional Debug Facility
IBM no. 6214-143.
IBM PC, XT, XT/370 ☐ Cost: $275

IBM PERSONALLY DEVELOPED SOFTWARE

☐ DOS Memories
IBM PDS no. 6276-607. Adds full screen console capabilities to DOS allowing user to scroll and edit commands on previously displayed screens. Assigns multiple DOS commands of up to 255 characters to a single key. Locks displays to prevent messages from scrolling. Monochrome and color EGA support.
IBM PC, XT, AT, Portable PC ☐ 128 KB req. ☐ Cost: $35

☐ Phone Directory & Print Buffer On-Line
IBM PDS no. 6276-523. Controls Print Buffer On-line via Phone Directory. Color EGA support.
IBM PC, XT, AT, Portable PC ☐ 128 KB req. ☐ Cost: $35

INETCO SYSTEMS, LTD.

☐ Inspeed
Allows XENIX systems to operate faster by offloading communications tasks to coprocessor card. Leaves main processor dedicated to application. Includes coprocessor card that supports 4 serial lines.
IBM AT/XENIX ☐ Cost: $1,135

THE INFORMATION PEOPLE

☐ KYSS System Enhancement Facilities
Front-end menu driver, job control processor and OS aid. Selects programs, execution sequences, and maintenance functions from standard-form menus disregarding language, command syntax, program name recall, or operation order.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10,000 since 1981 ☐ Cost: $149

INNER LOOP SOFTWARE

☐ ScrollMate
Adds off-screen scrolling memory to IBM PC. Internal buffer keeps up to 14 full screens on-line. Used with dir, type, edlin, debug, compilers, assemblers, link, and independently developed software. All saved lines can be printed.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 400 since 1983 ☐ Cost: $39

INNOVATIVE TECHNIQUES

☐ FrontEnd
Personalizes MSDOS and PCDOS OS and keyboard. Includes artificial intelligence features. Remembers frequently used commands. Allows user to create menu screens.
IBM PC ☐ 256 KB req. ☐ Cost: $75

INSPIRATION SYSTEMS, INC.

☐ Prevail - User Interface
Window and system manager for Prevail tool set. Incorporates full-screen editor. Facilitates user access through function keys and simple commands.
IBM PC ☐ 2,000 KB req. ☐ Copies sold: 100 since 1984

KADAK PRODUCTS, LTD.
SEE AD ON PAGE 351

☐ Buffer Manager
Manages memory buffers. User defines set of buffer pools (256 supported), each containing fixed number of buffers suitable to application. Application modules request buffer from specific pool. Fully re-entrant.
IBM PC ☐ 1.5 KB req. ☐ Introduced: 1981 ☐ Cost: $150

KERKHOFF COMPUTERS

☐ POS-Lotus 1-2-3 Interface
Interface and templates linking Panasonic POS and Lotus 1-2-3. Nine pre-formatted templates supplied to allow access to data.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $100

LATTICE, INC.
SEE AD ON PAGE 279

☐ LMK
Product generation utility initiates system rebuild by a single command based on relationships of various system pieces. Performs any executable command invoking batch text editor to make replacements in number of files and updating data base.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $195

LIONHEART PRESS, INC.

☐ Memory
Provides routines, called from interpreted or compiled BASIC, which increases active RAM capacity up to 512Kb, and which accesses memory locations up to 967Kb. Reserves memory segments for special routines, sets dimension and type for arrays, and handles string variables.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $75

LOCUS COMPUTING CORP.

☐ Multisystem Merge
Allows simultaneous transparent execution of UNIX and DOS. Permits record level file sharing, low/high level resource sharing. Provides full memory and I/O protection.
IBM PC ☐ 1000 KB req.

☐ PC-Interface
Allows UNIX system to act as file server to IBM PC running MSDOS. Users can toggle between UNIX and MSDOS. UNIX and PC treat files as own. UNIX runs in background. Coexists with standard network protocols.
IBM PC, AT ☐ 40 KB req. ☐ Introduced: 1984 ☐ Cost: $250

MARCSOFT SOFTWARE

☐ Screen Colors
Controls color monitor for PCDOS.
IBM PC ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $35

MARTIN MARIETTA DATA SYSTEMS
(operating company of Martin Marietta Corp.)

☐ RunIT
DOS shell program. Provides an interface to all PC routines.
IBM PC, XT, AT ☐ 48 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $100

MATRIX SOFTWARE TECHNOLOGY CORP.

☐ Synergy
Multi-tasking, graphics-based, TOPVIEW-compatible operating environment. Offers pull-down menus, icons, windowing, dialog boxes and context-sensitive help facilities. Standalone or overlay for TOPVIEW. Twelve K code size.
IBM PC ☐ 64 KB req. ☐ Copies sold: 650 since 1985 ☐ Cost: $395

☐ Synergy Desktop
DOS interface and desktop accessory. Acts as intermediary between DOS and applications. Manages system memory and multi-tasking processes. Includes calculator, notepad, clipboard and install utilities functions.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $70

MAXAMEDIA CORP.

☐ MAXAM
Context-sensitive, RAM-resident utility. Provides condensed DOS manual which opens to correct command.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $50

METAWARE, INC.
SEE AD ON PAGE 283

☐ DOS Helper
UNIX-like utility programs for OS enhancement under MSDOS hierarchical directory structure. File archiving and searching functions.
IBM PC ☐ 128 KB req. ☐ Copies sold: 7,500 since 1984 ☐ Cost: $50

MICHTRON, INC.

☐ DS DOS PLUS 2.11
Enhances MSDOS 2.11. Reads 40-track disk in 80-track drive. Controls any combination of 40- and 80-track drives. Reads or writes 8, 9 or 10 sectors per track on 40-track drives and 10 sectors per track on 80-track drives.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $50

☐ M DISK
Uses RAM to act as additional disk drive.
IBM PC ☐ 192 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $35

MICRO ASSOCIATES, INC.

☐ MICA/PI (Productivity Interface)
Provides bridge between MICA Accounting Series and productivity packages such as spreadsheet, data base and word processing.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1982 ☐ Cost: $295

MICROCORP

☐ INTELLITASK
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $225

MICROTOUCH SYSTEMS, INC.

☐ DrivePoint
Provides buffered I/O to serial port of MSI's Point-1 Monitors. Configures, programs and communicates with intelligent touch screen controller. Formats/sends commands to controller. Reads responses from controller.
IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $125

MICROWAY, INC.

SEE AD ON COVER 3

☐ 87FORTRAN/RTOS
ANSI-77 subset. Generates 8087 code to use 8087 data types. Supports subset I/O including internal/external files and listed directed I/O. Accesses 8088 ports. Logical operations on 8- and 16-bit operands. Requires Intel 8087 NDP.
IBM PC, XT ☐ 512 KB req. ☐ Copies sold: 350 since 1984 ☐ Cost: $1,350

THE MOM CORP.

☐ PC/COM - VS
Virtual storage and process control. Transparent mainframe diskette support for PC. Configures process controller to define programs, utilities and systems used on system.
IBM PC, XT, AT ☐ Cost: $250

PETER NORTON COMPUTING

☐ Norton Utilities
Reviewed Jul/Aug 1983 p. 70.
Extends DOS for IBM PC. File recovery, disk display and screen control.
IBM PC, AT ☐ 128 KB req. ☐ Copies sold: 100,000 since 1982 ☐ Cost: $100

NOSTRADAMUS, INC.

SEE AD ON PAGE 240

☐ Noblink/Accelerator
Pop-up window for choosing cursor and accelerated speed of cursor. Provides 26 choices of colored cursors or reverse video non-blinking and conditional blinking for monochrome monitors.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $50

OPT-TECH DATA PROCESSING

SEE AD ON PAGE 2

☐ Scroll & Recall
Screen and keyboard enhancement. Scrolls back through data that has gone off top of screen. Captured data can be saved to a disk file.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $69

ORCHID TECHNOLOGY, INC.

☐ PCturbo Concurrency System
Concurrent processing on both PCturbo's 80186 processor and on processor in 8088 or 80286 in base machine. Full size window and keyboard to each application. Works under Virtual Machine Architecture running applications independently, sharing peripherals.
IBM PC, XT, AT

PERCON (PERIPHERAL CONNECTIONS, INC.)

☐ BARCOM
Makes input from COM1 or COM2 serial port on MSDOS computer appear as keyboard input to applications software. Permits serial port and keyboard input to be intermixed. Works with Lotus 1-2-3, WordStar, dBASE III, MSDOS command processor, and utilities.
IBM PC, XT, AT ☐ 600 KB req. ☐ Introduced: 1984 ☐ Cost: $99

PERSOFT, INC. (WI)

☐ Referee
Manages RAM-resident programs. Allows PC user to load multiple memory-resident programs without data loss/malfunctions. User can team up only those RAM-resident programs that are appropriate with particular application program.
IBM PC ☐ 128 KB req. ☐ Cost: $70

PERSONAL COMPUTER SUPPORT GROUP, INC.

☐ Lightning
Increases processing speed of IBM PC by disk caching.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10,000 since 1985

PHOENIX TECHNOLOGIES, LTD.

☐ MSDOS Integration
I/O routines and utilities to implement Microsoft's MSDOS version 2 OS for OEM's hardware. Supplies IO.SYS portion of MSDOS and utility programs.
IBM PC ☐ 128 KB req. ☐ Copies sold: 15 since 1982 ☐ Cost: $50,000

POWER UP

☐ One-Key DOS
Memory-resident interface to DOS. Executes most DOS commands including copy and delete files and change directories. Runs small programs from within.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Cost: $30

☐ Program Director
Creates applications menu by assigning each program's start command to menu number. Accepts DOS commands without having to exit to DOS. Three optional levels of password protection. Turns monitor off when user is absent for over 5 minutes.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Cost: $50

PROFIT SYSTEMS, INC.

☐ Team-Master
Runs nine tasks simultaneously.
IBM, PC, XT, AT ☐ 50 KB req. ☐ Introduced: 1982 ☐ Cost: $475-$1,175

☐ Team-Mate
Enables multi-user operation on single IBM PC, XT or AT.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $195

PROXIMITY TECHNOLOGY, INC.

☐ PF-BIOS
DOS-like software interface for PF-PC board for IBM PC.
IBM PC

RAYTRONICS

☐ DRIVEPLUS
Emulates four disk drives with eight names. Allows alias names for software compatibility. Works with RAMPLUS memory cards with memory sizes over 1 Mb.
IBM PC, XT ☐ 64 KB req. ☐ Cost: $60

REAL-TIME COMPUTER SCIENCE CORP. (RTCS)

☐ PL/M Connection
Interfaces with PL/M language. Accesses DOS and BIOS functions, and high-speed graphics functions which interface with color graphics and monochrome display adapters.
IBM PC ☐ 256 KB req. ☐ Copies sold: 650 since 1985 ☐ Cost: $295

ROCKY MOUNTAIN SOFTWARE SYSTEMS

☐ Carousel MicroTools
Supports UNIX functions including pipes, filters, re-directed I/O and scripts. Desk calculator, compress/expand, encrypt/decrypt, file split, text formatter, file compare, macro processor, text pattern search, number lines, sort, stream editor, data manipulation, command search, archive files, transliterate characters and command shell.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $90

ROSESOFT, INC.

☐ ProKey
Reviewed Oct 1985 p. 131.
Creates macros to customize programs. Assigns definitions to keys. Retrieves stock histories from Dow Jones. Updates Lotus 1-2-3 spreadsheets. Manages log-on protocol for networks.
IBM PC, XT, AT, PCjr, 3270-PC ☐ 96 KB req. ☐ Copies sold: 65,000 since 1982 ☐ Cost: $130

SCHUCHARDT SOFTWARE SYSTEMS, INC.

☐ InteMate
Accesses any program without going through OS. Transfers data from one program to another. Major DOS commands replaced with function key. Secondary file manager selects files to be run. Allows 80 character description of file. Screen editor.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $249

SDA ASSOCIATES

☐ FilePaq
Six utilities to enhance PCDOS commands. Operates on all subdirectory levels defined by tree structure. Uses global characters in directory names.
IBM PC, XT, AT ☐ Cost: $40

SOFTLOGIC SOLUTIONS, INC.

☐ DoubleDOS
Reviewed Dec 1985 p. 52.
Allows IBM PC to operate as multi-tasking system, performing 2 or more operations concurrently, using existing software, with total DOS compatibility.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 65,000 since 1984 ☐ Cost: $50

☐ Software Carousel
Memory manager puts programs into high-end memory for temporary storage when not in use. Simulates slide projector. Switches 10 programs from extended RAM, expanded RAM or disk itself.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $50

SOFTSTAR INTERNATIONAL, INC.

☐ DOS MANager
Supports DOS functions. Archives, unerases, moves, views, encrypts, copies, deletes, hides, prints and renames files. Searches for directories and cannot find files. Sets up configuration system file. Includes write and printer manager.
IBM PC ☐ 256 KB req. ☐ Copies sold: 400 since 1985 ☐ Cost: $79

SOFTWARE MASTERS (IN)

☐ Buffer-Master
Keyboard buffer extender from 15 to 2,000 key type ahead.
IBM PC, AT, XT, PCjr ☐ Cost: $30

SOFTWARE RESEARCH TECHNOLOGY

☐ SmartKey II Plus
Reviewed Oct 1985 p. 131.
Keyboard configuration program supporting Dvorak layout. Allows redefinition of any key as any other character or character string. Keys may be redefined while other software is in operation.
IBM PC, XT, PCjr ☐ Cost: $90

SOFTWARE SOLUTIONS, INC. (CT)

☐ DOSease
Reviewed Oct 1984 p. 36.
Menu interface to PCDOS. Accesses full power of DOS. Eliminates need to memorize cryptic DOS commands. Supports execution with fewer keystrokes. Screen highlighting and color capabilities. Integrates with SSI's DATAEASE, information management system.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $100

THE SUCCESS PRESS

☐ DOS HELP
On screen help for DOS commands. User-modified screens and user-selected topics.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $20

SUNNY HILL SOFTWARE

SEE AD ON PAGE 351

☐ TASKVIEW
Provides multi-tasking enhanced functionality to Lotus 1-2-3, Sidekick and MultiMate. Partitions may be selectively suspended by user.
IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Cost: $70

SYSTEM SOLUTIONS ASSOCIATES

☐ ESP 1 (Extended System Power One)
Stores up to 18 PCDOS applications in memory at same time. Users can switch among several RAM-resident tasks by pressing system request key. Allots 640 KB per application up to 16 MB.
IBM PC, AT

TANGENT TECHNOLOGIES

☐ PC MacBridge
IBM PC users can share the Apple LaserWriter with up to 31 work group users on a network.
IBM PC ☐ Cost: $595

TEXAS INSTRUMENTS

☐ NaturalLink Access to MS-DOS
Translates English sentences constructed by user into MSDOS commands. User chooses from presented words/phrases with software guidance.
IBM PC ☐ 256-512 KB req. ☐ Cost: $75-$125

THEOS SOFTWARE CORP.

☐ BASIC 87
Enhances speed/accuracy of floating point arithmetic operations. Uses Intel's 8087 numeric processor extension. Source code compatible with existing BASIC/C programs.
IBM XT, AT ☐ Cost: $695

☐ Theo-DOS
DOS emulator for Theos 286-V OS. Interprets DOS commands and executes corresponding Theos 286-V commands. Supports multi-user environment. Runs various MS-DOS programs.
IBM AT ☐ 35 KB req. ☐ Cost: $150-$250

THOMPSON AUTOMATION

☐ Percent
Provides UNIX compatible command environment for MSDOS. Consists of command interpreter and numerous utility commands. Provides functionality of UNIX Bourne Shell with some extensions consistent with Berkeley C-Shell including command history, aliases, directory stack and enhanced I/O redirection.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $95

THORNHILL CORP.

☐ File Ease
Performs DOS file and directory functions without complicated DOS commands. Incorporates Lotus 1-2-3-like structure. Allows single command operation to affect multiple files for copy, move, erase, rename and view functions. Locates lost files. Includes wildcard option. Adds, deletes and moves between directories.
IBM PC ☐ 56 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $55

UNISOURCE SOFTWARE CORP.

☐ Connector
Allows PC user to run both DOS and UNIX application programs.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $350

UNITED SOFTWARE SECURITY, INC.

☐ TallScreen
DOS session manager. Scrolls screen to review previous DOS output. Includes features that remember typed commands. Manages screen output.
IBM PC, XT, AT ☐ Cost: $40

U.S. DIGITAL CORP.

☐ CPeMulator, Z80 CPeMulator
MSDOS systems read Kaypro-formatted CP/M disks and load and run CP/M-80 programs by preceding object code file name with RUN. Runs 8080 and Z80 code.
IBM PC ☐ 48 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $100

☐ V20 CPeMulator
Runs CP/M-80 software at full speed. Replaces 8088 CPU chip with NEC V20 chip. Reads Kaypro II disks.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $150

UNITED STATES SOFTWARE CORP.

☐ USXZ80 Multi-Tasking Operating System Executive
Multi-tasking OS kernel for embedded applications. Includes dynamic task management, user-defined resource allocation, inter-task communication, priority task scheduling and free memory management.
IBM PC ☐ 3 KB req. ☐ Introduced: 1986 ☐ Cost: $1,950

VAXON, INC.

☐ ConCur
Multi-tasking/user system. Runs 10 application programs concurrently. User can switch any program to foreground with 1 keystroke.
IBM PC, XT, AT ☐ Cost: $195

☐ ConCur Plus
Multi-tasking/user system. Runs 10 application programs concurrently. User can switch any program to foreground with 1 keystroke. Supports 3 workstations.
IBM PC, XT, AT ☐ Cost: $395

☐ ConCur 2/Job
Runs 2 application programs concurrently.
IBM PC, XT, AT ☐ Cost: $99

WANG LABORATORIES, INC.

☐ UJ-3199 Upgrade to Enhanced MS/DOS Operating System
IBM PC ☐ Cost: $100

WESTLAKE DATA CORP.

☐ PathMinder
IBM PC ☐ 256 KB req. ☐ Copies sold: 8,000 since 1984 ☐ Cost: $40

WORKMAN & ASSOCIATES

☐ Z-Shell
Edits and reruns previous DOS commands. Runs multiple commands on one line. UNIX-like commands. Works with Borland's SideKick.
IBM PC ☐ Cost: $80

PERIPHERAL DEVICE DRIVERS

JOHN BEALL & CO., INC.

☐ Expert
Peripheral switching between IBM compatible mainframes. Controls up to 64 local or remotely distributed channel switches. Prompts user to enter single or multiple port requests. Executes prestored configurations/sequences.
IBM PC ☐ 256 KB req. ☐ Cost: $2,500-$15,000

GSS

☐ Device Drivers
Includes 3 volumes of device drivers. Volume 1 comprises display controllers, plotters, printers and input devices. Volume 2 adds several mouse and plotter drivers. Volume 3 contains drivers for graphics tablets and camera film recorders. Conforms to ANSI VDI graphic standards.
IBM PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $50-$150

☐ Drivers
Set of micro device drivers conforming to ANSI VDI graphic standard. Provides device-independent interface to graphic/alphanumeric capabilities of I/O devices. Includes drivers from GSS Device Drivers with additional display controllers, camera film recorders, printers and virtual device metafile driver.
IBM PC ☐ 128 KB req. ☐ Cost: $200

HERSEY MICRO CONSULTING, INC.

☐ Fansi-Console
ANSI.SYS replacement with more escape sequences. Scroll recall. Screen save. Supports 255-character typeahead and 50- and 43-line displays. DEC VT-100 emulation. Speeds up screen writing. Controls color.
IBM PC, XT, AT, Portable PC ☐ 64 KB req. ☐ Copies sold: 1,800 since 1984 ☐ Cost: $25

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ VDI (Virtual Device Interface) Drivers
IBM no. 6168-460. Supports IBM 5151 Monochrome Display and IBM 5272 Color Display under IBM 3270-PC Control Program.
IBM 3270-PC, 3270-AT

☐ 5218 Printer Driver
IBM no. 6293-576. Peripheral driver. Allows IBM PC users to utilize IBM 5218 Printer with its cut sheet paper handling and envelope feed devices for letter quality print applications.
IBM PC, XT, AT, 3270-PC, Portable PC ☐ 23 KB req.

IBM PERSONALLY DEVELOPED SOFTWARE

☐ Joy Mouse
IBM PDS no. 6276-606. Allows joystick to be used for cursor movement. Assigns 1 of 9 speeds. Supports horizontal or vertical movement. Assigns key functions to and redefines functions for joystick buttons as appropriate. Monochrome and color EGA support.
IBM PC, XT, AT, PCjr, Portable PC ☐ 64 KB req. ☐ Cost: $15

INTELLUTION, INC.

☐ Fix: I/O Drivers
Operable with Allen-Bradley Data Highway, Gould/Modicon Modbus, Honeywell TDC-3000 Data Hiway and Model 200 Gateway, Westinghouse Numalogic, TI Host Interface Adapter, Foxboro 99SC, 99UCB and 760, Acrosystems ACRO-900, Analog Devices uMac-4000 and RTI-8000 series, Data Translation DT2808, Digitronics Sixnet, ETI Micro, IBM Data Acquisition/ Control Adapter and Opto-22 Optomux.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $795-$1,095

☐ Parallel I/O Driver Tool Kit
Library modules and documentation for developing custom I/O drivers that interface The Fix with plug-in IBM bus devices.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $1,200

☐ Serial I/O Driver Tool Kit
Library modules and documentation for developing custom I/O drivers that interface The Fix with serial RS-23C devices.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $1,200

KRAFT SYSTEMS CO.

☐ Executive Cursor Control
Allows Kraft's Premium joystick to assume cursor control functions for use with spreadsheets, word processors and other business software. Supports IBM's TopView and special Lotus 1-2-3 macros.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Cost: $70

MCS GROUP, INC.

☐ Printer Drivers
Compatible with over 65 printers including HP LaserJet, Diablo, Epson, Okidata and Toshiba. Supports Wang word processing features.
IBM PC ☐ 256 KB req. ☐ Copies sold: 20,000 since 1983 ☐ Cost: $100

MICROPLOT SYSTEMS

☐ PlotDev
Device driver. Adds graphics command capabilities to any program language. Imitates DEC VT-100's alpha terminal commands and Tektronix 4010/4014/4027 graphics terminals. Supports most graphics boards including Tecmar and IBM Color. Does not interfere with other memory resident programs. Programmable.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,500 since 1985 ☐ Cost: $39

POLARIS SOFTWARE

☐ Ram Resident PrintMerge
RAM-resident print driver for LaserJet or LaserJet Plus. Prints from word processing, spreadsheet or data base programs. Changes fonts anywhere in program. Merges charts, maps and symbols. Includes proportional spacing and justification, shading, patterns, keyboard translation tables and overlay macros.
IBM PC ☐ Cost: $149

RIX SOFTWORKS, INC.

☐ EGA - 123
Set of driver programs for Lotus 1-2-3. Graph mode drivers support color and monochrome displays and hi-res mode of 640 X 350 pixels. Print screen drivers support most graphics printers, some laser printers and Okimate 20 color printer.
IBM PC

TECMAR, INC.

☐ Device Master Software
Enables easy scheduling of devices which are controlled by Tecmar BSR X10.
IBM PC ☐ Cost: $35

WARP SPEED COMPUTER PRODUCTS, INC.

☐ Conductor
Light pen driver and enhancement program for Symphony and Lotus 1-2-3. Enables new menu system adding features and putting light pen control onto existing features.
IBM PC, XT, AT ☐ 126 KB req. ☐ Copies sold: 4,000 since 1985 ☐ Cost: $60

☐ Gemlight
Light pen driver and enhancement program for GEM-Desktop and Collection Series by Digital Research. Overlay program selects menus by touching pen to monitor on word or character being selected.
IBM PC, XT, AT ☐ 126 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $50

☐ Penmouse
Converts mouse driver software to light pen control.
IBM PC, XT, AT ☐ 126 KB req. ☐ Copies sold: 5,000 since 1985 ☐ Cost: $50

☐ Warpstar
Light pen controller and enhancement driver for WordStar. Edits documents on monitor. Enhancement targets speed menu selection using light pen.
IBM PC, AT, XT ☐ 126 KB req. ☐ Copies sold: 700 since 1985 ☐ Cost: $50

PRINT UTILITIES/ SPOOLERS

ACORN PLUS, INC.

☐ Easy Laser
Enables user to select laser printer and enter values to insert into word processor file. Includes default files. Positions text lines/ columns. Indents, centers and justifies text. Underlines, superscripts or subscripts text. Draws rules and boxes. Supports HP and other laser printers.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 200 since 1986 ☐ Cost: $100

ADVANCED MATRIX TECHNOLOGY, INC.

☐ AMTfont
Creates, edits and saves custom characters and symbols for printing on AMT Office Printer.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $295

ALLEN, EMERSON & FRANKLIN, INC.

☐ TPFilter
DOS filter program. Traps special characters in text file and replaces them with appropriate Epson/IBM printer commands to activate special printer features.
IBM PC ☐ 96 KB req. ☐ Copies sold: 3 since 1985 ☐ Cost: $30

APG SOFTWARE

☐ PNP Capture
Screen dump utility for IBM graphics board on laser and dot matrix printers. Print options include clipping, rotation, expand size and double pass.
IBM PC ☐ 21 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $49

APPLIED SOFTWARE TECH, INC.

☐ Snapshot
Screen-dump utility. Sends screen images to printer. Prints in color on color printers and gray shadings on non-color units. Includes screen to color redefinition.
IBM PC ☐ Cost: $65

ATC SOFTWARE

☐ Big Print
Prints messages in letters to eight inches high including letters, numbers and special symbols.
IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Copies sold: 4,800 since 1980 ☐ Cost: $50

AVATAR TECHNOLOGIES, INC.

☐ Print-Net
Allows PCs tied to IBM 3270 network to share mainframe printer resources. Switches dynamically between locally-attached PC printer or any 3270 system printer for output.
IBM PC ☐ Introduced: 1985 ☐ Cost: $195

BCS DATA SYSTEMS, INC.

☐ BCS ELPH
Local printer handler. Allows user to plug printer into auxiliary port of CRT. Printer and CRT operate from same modem.
IBM PC ☐ Cost: $295

BUSINESS SYSTEMS INTERNATIONAL, INC.

☐ Lasersoft
Forms generation for Xerox, HP LaserJet and Laser Jet/Plus laser printers. Performs data merging with electronically created forms. Data entry module available to fill out electronic forms. User can create software documentation including CRT printing.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $995

C. ITOH DIGITAL PRODUCTS, INC.

☐ PC Itoh Utilities
Printer utility program. Allows IBM PC users to print spreadsheet graphics in color, run software written for competitive printers and create custom character sets.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $55

CIVIL COMPUTING CORP.

☐ PropStar
Type-set, proportionally-spaced printout for WordStar and NewWorld. Compatible with most daisy wheel printers including Diablo, Qume, NEC and with ps-type wheels.
IBM PC ☐ 85 KB req. ☐ Copies sold: 800 since 1983 ☐ Cost: $50

COMMONWEALTH COMPUTER ASSISTANCE FOR BUSINESS

☐ Printmac
Printer utility for Symphony. Controls 64 Epson font and line-per-page options including elite, pica, condensed, enlarged, single/double-strike and emphasis font options and 33, 66, 88 and 99 lines per page options.
IBM PC, XT, AT ☐ 33 KB req. ☐ Introduced: 1986 ☐ Cost: $20

COMPANION SOFTWARE, INC.

☐ Facelift 2
Accesses 96 typefaces, styles and sizes on Epson printers and compatibles. Selects typeface, style or size from menu.
IBM PC ☐ 256 KB req. ☐ Copies sold: 40,000 since 1985 ☐ Cost: $50

COMPUTATIONAL SYSTEMS, INC.

☐ ADAPTA-Print
Memory resident driver. Contains a print spooler, a forms generator, a sideways print package and IBM to non-IBM print code translator. Makes dot matrix printers compatible with IBM PCs.
IBM PC ☐ 40 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $89

COMPUVISION INTERNATIONAL

☐ Total Printer
Controls features of HP Laserjet and Laserjet Plus. Includes envelope formatting, counters for numbering pages or paragraphs, bold and underline toggle switches, date variable and file merging/separation.
IBM PC ☐ Cost: $79

CONNECTICUT SOFTWARE SYSTEMS CORP.

☐ Printer Boss
Double/quad density letter quality, RAM printer buffer to 32K. Prints sideways from print file or application program. Custom font design in normal and quad density, and in 24x9, 25x15 and 24x37 density on Epson LQ printers. Provides 16 fonts. Block/ line graphics, Greek and math symbols.
IBM PC, XT, PCjr, AT, 3270-PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $130

☐ Sideline
Prints sideways from print file or application program. RAM resident. Unlimited file size. Includes 6 type fonts, custom sideways character font design, full IBM screen character set and unlimited menu settings storage and recall. Supports path names. Right-side up printer control.
IBM PC, XT, AT, PCjr, 3270-PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $70

CONOGRAPHIC CORP.

☐ ConoFonts
Library of name-brand type for use with popular laser printers and PC word processing applications. Includes 20-30 fonts in each package in Times, Souvenir, Triumvirate and display styles. Math/Greek, commercial symbols and borders.
IBM PC, XT, AT ☐ Cost: $100

☐ ConoFonts Manager
Manages and downloads ConoFonts, HP Soft Fonts and internal fonts on LaserJet+ printer. Supports production of configuration files needed by word processors to use downloaded fonts.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $70

CONTROL-C SOFTWARE, INC.

☐ StarBeam
Prints WordStar documents on Canon LBP-8 A1 and A2 Laser Beam printers as is. Provides fonts, horizontal and vertical lines, shaded and unshaded boxes, text in boxes, multiple columns per page, proportional spacing with justification and underline spaces.
IBM PC ☐ Cost: $150

☐ StarJet
Utility to print WordStar documents on HP LaserJet. Provides formatted multiple column output, right justification of unjustified lines, underlining of spaces and multiple fonts. Draws shaded areas. Loads and prints envelopes. Provides horizontal and vertical lines, boxes and monospaced font microjustification.
IBM PC ☐ 45 KB req. ☐ Cost: $150

CYBERENGINEERING CORP.

☐ CyberTools Dot Matrix Printer Fonts Utilities & Library
Font generation. Includes 14-alphabet Hershey Occidental Repertory of fonts with total of 1,377 characters, and Hebrew character set. Different Greek, Roman, Italic, Gothic and Cyrillic fonts. Stores fonts in ASCII files as successive coordinate pairs.
IBM PC

☐ CyberTools Printer Utilities & Library
Prints AUTOST.BAS files, large banner-like print-outs, BASIC programs with highlighted REMS and printer's character set. Supports different biorhythm chart printers. Includes code to suppress printer buzzer. Epson printer utilities, different printer spoolers, and utilities for Wordstar printer set up.
IBM PC

DATACOMP SYSTEMS, INC. (PA)

☐ Business Printf
Output formatting. Replacement for printf, fprintf and sprintf to support comma insertion, floating dollar signs and parentheses for negatives and field fill.
IBM PC ☐ Introduced: 1983 ☐ Cost: $250

DIGITAL CONCEPTS, INC.

☐ Character Library Disk
Additional character fonts for use with DigiCon Print and DigiCon Edit. Font sets include Gothic, western, stencils, shadows, wide or capital letters, thin 12, triangles, darks and stripes.
IBM PC ☐ 128 KB req. ☐ Cost: $20

☐ DigiCon Edit
On-screen editor for foreign language and special symbol character sets and forms for use with DigiCon Print. Insert, exchange and template editing modes. Draft, medium and high-quality printing. Prints single or multiple fonts per document.
IBM PC ☐ 128 KB req. ☐ Cost: $50

☐ DigiCon Print
Variety of character size and style fonts for Epson printers. Allows sideways printing. Includes foreign language characters. Forms creation capability. Multi-directional printing. Sections text in columns or blocks. Draft, medium and high-quality printing. Automatic scaling to size.
IBM PC ☐ 128 KB req. ☐ Cost: $50

DORING LABELS, INC.

☐ Make-A-Label
Electronics label printing system.
IBM PC ☐ 256 KB req. ☐ Cost: $1,295-$1,610

ELLIS COMPUTING, INC.

☐ BigPrint
Prints large block characters horizontally. Characters available include letters A through Z, upper and lower case; numbers 0 through 9; and 27 special characters.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $20

EMULEX CORP.

☐ Wait-Less Printing
Prints from PC while processing other tasks at keyboard. Deactivates spooler, sending data to printer. Multiple printers, parallel and serial printers, 2 communications lines, 4 line printer terminals. Assigns spool buffer. User-defined comm support handshaking including Xon/Xoff.
IBM PC ☐ 64 KB req. ☐ Introduced: 1982

ENTELEKON

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☐ Superfonts for C
Provides character and image font libraries or allows user to build custom character/image libraries. Extra-size letters and fonts.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $50

EURO-SOFTWARE SERVICES, INC.

(division of ESS Software Trading)

☐ LaserSet
Assists set up of HP Laserjet and Laserjet Plus printers. Memory resident. Allows user to switch fonts during printing. Font attributes include print orientation, symbol set, spacing, pitch, point size, style, stroke weight and typeface.
IBM PC ☐ 128 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $50

FIELD COMPUTER PRODUCTS

☐ FX256 & NUCHAR
For use with Epson FX-80 and FX-100 printers. Extends printers to use IBM's 256 characters. Allows customization of up to 128 printing characters available through FX256.
IBM PC, XT ☐ Cost: $35

☐ PR256 & NUCHAR
Extends Epson MX-80 and MX-100 printers to provide IBM's 256 characters. Customizes up to 128 printing characters available through PR256. Requires Epson GRAFTRAX-PLUS or GRAFTRAX printer options.
IBM PC, XT ☐ Cost: $35

FORMMAKER SOFTWARE, INC.

☐ FormMaker II
Creates forms and labels for output through Laser printers. Utilizes mouse for creating lines, boxes, borders, bar codes and other graphics, or for moving lines of text, changing type font sizes or repositioning sections on the monitor.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $495

GENERIC COMPUTER PRODUCTS, INC.

☐ Prnspool
Saves print-ready file to buffer. Executes output without having to exit application program. Supports multiple printers or plotters on one computer allowing simultaneous and independent spooling to every device. Provides spooling control from DOS command level.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $40

GENERIC SOFTWARE, INC.

☐ Dot Plot
Converts 100 dot matrix printers into hi-res plotters. Plots can be up to 14 inches wide with unlimited length, rotated 90 degrees and fitted or scaled. Works with Generic CADD.
IBM PC

GETC SOFTWARE, INC.

☐ PrintMission
Support for Toshiba 3 in One printers. Comprised of font editor, screen print utility, graphics character set and pop-up printer controller.
IBM PC ☐ 128 KB req. ☐ Cost: $85

GRANNY'S OLD-FASHIONED SOFTWARE

☐ LQ
Printer enhancement. Produces near-letter-quality print in boldface, underline, italics, superscript and subscript. Provides large and extra-large characters. Allows proportional spacing. User can switch fonts within document. Includes character editor. Compatible with Epson and most dot matrix printers.
IBM PC ☐ 80 KB req. ☐ Copies sold: 400 since 1985 ☐ Cost: $35

HAMMERLAB CORP.

☐ Lettrix
Prints proportionally-spaced, letter-quality text in 20 typefaces plus foreign languages with accents. Works with word processing programs. Prints lines and boxes with IBM graphics characters. Designs letters on monochrome or graphics screen in 24x16 matrix. Prints scientific formula.
IBM PC, XT, AT, PCjr ☐ 55 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $99

HEWLETT-PACKARD CO.

☐ Print Central
Connects HP PCs and IBM XTs via RS-232C direct connections to such HP 3000-based printers as the 2688A, 2680A and 2686A laser printers, 2601A/2602A letter-quality daisywheel printers and 2934A dot-matrix printers in U.S and U.K English, French and German.
IBM XT ☐ 384 KB req. ☐ Cost: $180

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ IBM 3812 Pageprinter Font Management System
IBM no. 6466-982. Customizes 3812 fonts shipped with printer, changes power on default options, selects and includes special fonts and creates enterprise-specific 3812 font libraries. Creates logos and signatures.
IBM XT, AT ☐ 512 KB req. ☐ Cost: $375

☐ LAN Print Manager
IBM no. 6317-042. Allows workstations attached to IBM PC Networks or Corvus OMNINET LANs to share IBM 3820 Page Printer on LAN.
IBM PC

☐ Pageprinter Driver
IBM no. 6466-981. Exploits features of 3812 Pageprinter. Allows selection of fonts, page orientation, paper drawer, margins, tabs, lines per inch and other Pageprinter options. Up to 8 users can connect to Pageprinter with its optional sharing card feature.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $49

☐ Print Screen Utility
IBM no. 6024-186.
IBM PC, XT ☐ Cost: $35

IBM PERSONALLY DEVELOPED SOFTWARE

☐ PC Print

IBM PDS no. 6276-613. Creates and edits printer fonts and allows normal and sideways printing. Prints 10, 12, 15 or 17 characters per inch. Uses large type styles. Reflows text to desired width and right justifies text. Specifies indentation. Monochrome and color EGA support.
IBM PC, XT, AT, PCjr, Portable PC ☐ 128 KB req. ☐ Cost: $25

☐ Personal Print Control

IBM PDS no. 6276-573. Marks and positions printer to jobs in printer buffer for reprinting. Compressed, double-struck, double-width, emphasized or underlined print. User-specific printer control character strings. Multiple copies. Printed output spooling. Color EGA support.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $30

☐ Print Buffer On-Line

IBM PDS no. 6276-521. Passes data to an up to 62 KB print buffer to allow one job to be printed while host processes other jobs. Controls printing process via such commands as pause/resume, reprint page and reprint documents. Color EGA support.
IBM PC, XT, AT, Portable PC, 3270-PC ☐ 128 KB req. ☐ Cost: $20

☐ PrintDW

IBM PDS no. 6276-604. Converts IBM DisplayWrite files to standard ASCII files. Prepares IBM DisplayWrite files for use on printers capable of printing files with only graphics characters. Can be customized to recognize and strip out escape sequences for specific printers. Monochrome and color EGA support.
IBM PC, XT, AT, PCjr, Portable PC ☐ 128 KB req. ☐ Cost: $20

☐ Select-A-Font

IBM PDS no. 6276-514. Provides such basic formatting controls as centering, indenting, text justification, line skipping, tabbing and underlining. Type styles are selectable from 3 type sizes, 9 character widths and 2 print densities. Color EGA support.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $20

IMAGE COMPUTER SYSTEMS

☐ Metatext

Converts dot-matrix print to letter-quality type. Intercepts characters sent to printer and converts them into hi-res plot data. Contains 6 fonts. Emulates IBM Graphics Printer. Drives most dot-matrix printers that recognize Epson control codes.
IBM PC ☐ Cost: $129

INSIGHT DEVELOPMENT CORP.

☐ LaserControl 100, 200, 300

Printer driver and utility setup system. Includes downloadable fonts, pop-up menus and proportional right justification. Compatible with 24,000 applications. Supports Diablo, Qume, NEC, Epson, DEC LN03, Xerox, IBM, QMSKISS, Smartwriter, Cannon and Ricoh printers.
IBM PC, XT, AT ☐ 13 KB req. ☐ Copies sold: 3,500 since 1985 ☐ Cost: $150 (100); $499 (200); $749 (300)

INTEGRATED MARKETING CO. (IMC)

☐ Data Manager

Connects 5 PCs with RS-232 interfaces to any printer with RS-232 interface. Stores finished copy for final printout on first-in, first-out basis. Allows data transportation up to 19.2 K bits per second. Provides 1 MB of memory storage.
IBM PC, XT, AT ☐ 64 KB req. ☐ Cost: $695

INTERACTIVE SYSTEMS CORP. (CA)

☐ INpost/LQP

Postprocessor for Diablo 1600 series, Qume Sprint/5 and NEC Spinwriter printers. Translates text and Interactive's INword intermediate language into control codes and text to be sent to letter quality printers.
IBM RT, AT/AIX, PC/IX

☐ INpost/6670

Postprocessor for IBM 6670 laser printer. Translates text and Interactive's INword intermediate language into control codes and text to be sent to IBM 6670 laser printer.
IBM RT, AT/AIX, PC/IX

JEWELL TECHNOLOGIES, INC.

☐ GRAFPLUS

Produces black/white or color scaled dot matrix reproductions of user's display.
IBM PC ☐ Cost: $50

KELLER SOFTWARE

☐ Laser Fonts

Memory-resident font selection for HP LaserJet and LaserJet Plus printers. Utilizes 3-digit codes and A through W font cartridges. Allows font changes in middle of page, sentence or word. Works within spreadsheets, DBMSs, word processors and text editors.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $39

KOCH SOFTWARE INDUSTRIES, INC.

☐ Fontastic

Controls font selection, printout orientation, printer resetting, page ejecting, margin setting and page shading segments. Supports all font cartridges and most laser and dot matrix printers.
IBM PC, XT, AT ☐ Cost: $90

LEBAUGH SOFTWARE CORP.

☐ LePrint

Used with word processors that convert to ASCII text file. Allows change of type styles/sizes within line. Tracks separate/independent fonts. Superimposes 1 character over another. Prints selected page numbers or entire document. Fourteen type styles available. Prints mathematical equations/fractions.
IBM PC ☐ 256 KB req. ☐ Cost: $149-$275

LOWELL SYSTEMS, INC.

☐ Labeltronic 1000 System

Produces labels by replacing preprinted labels with label templates. Specifies over 24 bar codes. Prints horizontally or vertically. Operates in immediate or production mode. Features serial number tracking.
IBM XT

MACRO SYSTEK, INC.

☐ Macro-Net Software

Allows users of Corona laser printer to attach up to 4 computer devices. Network host runs transparent to users. User redirects printer port to appropriate com port on PC system. Stores/prints tasks on previously defined priority basis.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 180 since 1985 ☐ Cost: $795

MARCSOFT SOFTWARE

☐ OKI/PC Connection

Controls printing modes of Okidata printers for MSDOS from menu-driven program.
IBM PC ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $35; $60 (source)

☐ Printer Interfacer

Interface for MSDOS to any printer. Sets software selectable print codes for printer.
IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $60

MARVEL SOFTWARE

☐ Print

Provides proportional spacing, user-created graphics and character sets, backspacing, label printing, subscripts, superscripts, underlining, enhanced or emphasized print, double width, pica, elite or condensed text.
IBM PC ☐ Cost: $70-$90

MICHTRON, INC.

☐ Freeze Frame

Handles text or graphic screen dump to printer.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $40

☐ Soft Spool

RAM spooler for printing.
IBM PC ☐ 192 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $35

MICROPLOT SYSTEMS

☐ CasPrint

Saves entire CAS on-line session which includes pages of text with graphic representations of molecules in disk file. Prints on dot matrix printer off-line. Prints graphics images at 1024 X 780 resolution.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,500 since 1985 ☐ Cost: $40

☐ PrintPlot

Prints image of picture file on dot matrix printer using full resolution of Tektronix 4010 data file, 1024 X 780, rather than reduced resolution from direct dump.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,500 since 1985 ☐ Cost: $50

NORTHWEST SOFTWARE ASSOCIATES (NWSA)

☐ PrintKey Universal Printer Driver

Memory resident. Allows access to printer features from within any other software. User-defined command sequences. Access by keystrokes and/or embedded characters. Pop-up menu.
IBM PC, XT, AT ☐ 20 KB req. ☐ Introduced: 1986 ☐ Cost: $90

OASYS

(division of XEL, Inc.)

☐ LaserPro Editor I, II

Provides LaserPro laser printer users with expanded control over font variations. Fonts created or modified can be used with most standard word processing, spreadsheet and graphics programs.
IBM PC, XT, AT ☐ Introduced: 1986 ☐ Cost: $50 (Editor I); $399 (Editor II)

OKIDATA

☐ Okifont

Includes standard, italic, roman, gothic, Symbol II and Symbol 10 fonts. Allows any combination of fonts to be used within same document. User can create new fonts.
IBM PC, XT ☐ Cost: $50

ORBIT ENTERPRISES, INC.

☐ SETHP

Font setup utility for HP LaserJet Printer. Controls printer options, sets feed type, number of copies, font selection, margins, line wrap and underline features. Works from menu or within batch files.
IBM PC ☐ 64 KB req. ☐ Cost: $50

PECAN SOFTWARE SYSTEMS, INC.

☐ Print Spooler
IBM PC, XT, AT ☐ Cost: $30

PHOTON SOFTWARE
(division of Care Computer Systems)

☐ PrintMate
Imbeds user-defined printer control codes. Can imbed one product's printer code to access features on another unsupported printer.
IBM PC, XT, AT ☐ 9 KB req. ☐ Introduced: 1986 ☐ Cost: $30

☐ Softype
Provides four functions while working inside another program. Emulates memory-typewriter. Allows instant printing of short letter or memo. Completes office forms. Selects print characteristics.
IBM PC, XT ☐ 35 KB req. ☐ Copies sold: 3,000 since 1985 ☐ Cost: $69

POEMS

☐ POEMS Font Editing System
Changes existing characters and creates new characters on graphics display. Stores characters in master font format for later printing.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985

POLARIS SOFTWARE

☐ PrintMerge
Print control. Uses WordStar commands. Allows changing fonts anywhere in program. Merges graphics into document. Includes proportional spacing and justification, page layout commands, multiple headers/footers, tables with proportional fonts, super/subscript and underlining. Works with HP LaserJet and LaserJet Plus printers.
IBM PC, XT, AT ☐ 196 KB req. ☐ Cost: $124

☐ Setup Utility
Downloads soft fonts to HP LaserJet and LaserJet Plus. Works with Polaris systems.
IBM PC, XT, AT ☐ Cost: $25

POWER UP

☐ Banner Builder
Prints message sideways on 80-column paper in bold, 6-inch-high capital letters.
IBM PC, XT, AT, PCjr ☐ 48 KB req. ☐ Cost: $30

☐ Print Commander
Provides access to printer commands from within current application. Stops or clears spooler without restarting system. Pop-up menu converts control codes to plain English. Switches among multiple printers or between several modes for single printer. Accepts custom preconfigurations.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Cost: $50

☐ Sign Designer
Prints sideways on 80-column paper. Type styles include executive, block and Gothic. Character height is adjustable from ¼" to 8", up to 10 lines deep with up to 122 characters per line. Print options include high-density or fast-print.
IBM PC, XT, AT, PCjr ☐ 48 KB req. ☐ Cost: $60

☐ Typewriter
Prints each character as typed or one line at a time. Wordwrap. Status line tells current line length, typing mode and cursor position. Sets tabs and margins.
IBM PC, XT, AT ☐ 48 KB req. ☐ Cost: $40

☐ Widespread
Prints documents horizontally. Prints 3 type sizes including 14, 12 and 9 characters per inch.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Cost: $50

RIX SOFTWORKS, INC.

☐ TV Spool
Printer spooler for TopView environment. Disk resident queue, page buffer, banner processor, delete after and multiple copies. Maintains queue of up to 100 files to be printed.
IBM PC

ROCKY MOUNTAIN SOFTWARE SYSTEMS

☐ WordPatch
IBM PC ☐ 64 KB req. ☐ Copies sold: 4,000 since 1983 ☐ Cost: $50

SCIENTIFIC ENDEAVORS CORP.

☐ TFONT
Collection of utilities for Toshiba printers with down-loadable fonts. Includes font editor and font loader. Turns printer into typewriter.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10 since 1985 ☐ Cost: $20

SDA ASSOCIATES

☐ OkiPaq
Prints 255 IBM PC characters and graphics screen images for Okidata 92/93 printer. Checks to ensure that printer device actually exists. Sets attributes of printer from PC terminal. Supports character sizes, print quality, tab settings and standard defaults.
IBM PC, XT, AT ☐ Cost: $30

SOFTCORP, INC.

☐ Side Step
Printer utility that allows text to be printed sideways. Rotates documents 90 degrees. Contains 18 combinations of font size and print quality. Provides hard disk path and wildcard filename support, operation from DOS command and display of directories or subdirectories.
IBM PC, XT, PCjr ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $60

SOFTCRAFT, INC. (WI)

☐ Fancy Font
Provides fonts in sizes 8 to 24 points and in styles including Roman, Bold, Italic, Script and Old English. New characters or logos, up to 1" x 1", can be created by user.
IBM PC, PCjr ☐ 196 KB req. ☐ Copies sold: 75,000 since 1982 ☐ Cost: $180

☐ Fancy Word
Produces type styles and sizes for Microsoft Word users. Includes Roman, sans serif, bold, italic, script, Old English in 10-24 point sizes. Offers optional fonts in sizes from 6 to 72 points. User-created special characters and logos.
IBM PC ☐ 196 KB req. ☐ Copies sold: 15,000 since 1985 ☐ Cost: $140

☐ Laser Fonts
Downloads fonts in sizes 8-24 points and in styles including Roman, bold, italic, script and Old English. User creates new characters or logos up to 1" x 1". Comes with over 1,500 mathematical, foreign language and other special symbols.
IBM PC, PCjr ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $180

SOFTKEY SOFTWARE PRODUCTS, INC.

☐ KeyType
Allows user to select printer's font type and printing options by selecting desired settings from single menu.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 9,000 since 1984 ☐ Cost: $60

SOFTSTYLE, INC.

☐ Printworks For Dot Matrix
User selects combinations of print modes (including emphasized and proportional), type size, line spacing, page size, additional print modes and foreign character sets. Prints sideways down page. Includes font editor and math and science symbols.
IBM PC, AT, XT, PCjr ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $70

☐ Printworks For Lasers
Menu-resident utility and enhancement for laser printing. Provides menu selection of laser printing features, merged text and graphics, and on-call Epson MX printer emulation.
IBM PC, XT, AT, PCjr ☐ Cost: $125

SOFTWARE CONSULTANTS INTERNATIONAL

☐ PrinScil
Eliminates escape or printer codes. User-tailored output. Prints and/or saves output for later use.
IBM PC, PCjr, XT ☐ 128 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $30

SOFTWARE DIRECTIONS, INC.

☐ PrintQ
Prints up to 255 copies. Views documents without printing. Prioritizes document printing. Prints same form types together to minimize changes. Handles each individual report or print file based on specifications.
IBM PC, XT, AT, PCjr ☐ 192 KB req. ☐ Cost: $89

SOFTWARE MASTERS (IN)

☐ Spool-Master
RAM print spooler. Multiple copies. Handles single sheets. Any buffer size.
IBM PC, AT, XT, PCjr ☐ Cost: $50

SOFTWARE RESEARCH TECHNOLOGY

☐ Smart Print II
Enhancement to SmartKey II. Accesses printer functions normally unavailable. Characters imbedded in text. Translates characters into printer's control codes. Supports printers accepting function sequences for bold face and italics.
IBM PC ☐ Cost: $50

SOURCEVIEW SOFTWARE INTERNATIONAL

☐ EPSWord
Modifies WordStar to provide Graftrax-Plus capabilities on Epson or IBM printers. Print features include compressed font, italics, doublestrike, emphasized characters or half-height superscripts.
IBM PC ☐ Cost: $40

☐ PC Form
Text formatting system designed for operating with line printer. Supports macro commands 10 deep, and printer specifications for overstrike and doublestrike. Functions include setting text characteristics, text formatting, page control, printer control and macros.
IBM PC ☐ 32 KB req. ☐ Cost: $50

☐ Super Print
For use with Wordstar to optimize printer features. Includes create/print on empty pages, chaining different files, changes strikeover character, alternate Greek character set and redefining control characters.
IBM PC ☐ Cost: $30

☐ Transfer Tex
Heat transfer of printer output to other surfaces. Prints enlarged letters in reverse in order to have a correctly transferred image.
IBM PC ☐ 64 KB req. ☐ Cost: $30

STRAIGHTFORWARD

☐ ZDirector
Font management and printer support system. Manages fonts, sets up printer, down loads fonts, modifies fonts for special requirements and creates new fonts.
IBM PC, XT, AT

THE SUCCESS PRESS

☐ FX
Sets or modifies any option or set of options on any Epson FX or RX series printer interactively or from batch file. Emulates an electronic typewriter.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $20

TALL TREE SYSTEMS

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☐ JSPOOL
Handles up to eight serial and parallel printers. Buffer may be any size. Files marked to any printer, and may contain printer control codes. Parameters adjustable.
IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $60

TELEXPRESS, INC.

☐ XPD (XENIX Print Daemon)
Directs XENIX print files from any micro equipped with Teleterm EM, terminal or console, to any micro, terminal or console acting as printer workstation. Pauses between pages, controls queue functions and adjusts forms on printer.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $250

TEXAS INSTRUMENTS

☐ Font Gen
Custom font generator for TI's OMNI 800 series of microprinters. Creates non-Arabic character sets such as Chinese or Japanese alphabets. Stores custom characters, recurring symbols or corporate logos for repetitive use.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $50

TJ SOFTWARE, INC.

☐ Label Maker
Prints bar codes, OCR-A like and large characters from data entered at keyboard or from disk. Creates and saves unique printing formats and record layout. Performs record add, change, delete, sort and select.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 150 since 1984 ☐ Cost: $195

☐ Matrix Printer Analysis
Determines if matrix printer bar codes meet ANSI standards. Dot pattern configuration for 3-of-9 and Interleaved 2-of-5 bar codes, determined from horizontal and vertical dot spacing and printed dot size.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $2,500

WANG LABORATORIES, INC.

☐ PC Brother EM100 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Brother HR15 and HR25 Printer Driver
IBM PC ☐ Cost: $100

☐ PC C.Itoh Prowriter 8510 Printer Driver
IBM PC ☐ Cost: $100

☐ PC C.Itoh Starwriter F10 Printer Driver
IBM PC ☐ Cost: $100

☐ PC C.Itoh 8600B Printer Driver
IBM PC ☐ Cost: $100

☐ PC Daisywriter 2000/1500 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Datasouth DS180 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Diablo 620 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Diablo 630 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Diablo 630 with F3200 F33 Printer Driver
IBM PC ☐ Cost: $150

☐ PC Epson FX80 and FX100 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Epson LQ1500 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Epson MX80 and MX100 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Hewlett-Packard Laser Jet Printer Driver
IBM PC ☐ Cost: $100

☐ PC IDS Prism 132 Printer Driver
IBM PC ☐ Cost: $100

☐ PC NEC 3510 Printer Driver
IBM PC ☐ Cost: $100

☐ PC NEC 3515 Printer Driver
IBM PC ☐ Cost: $100

☐ PC NEC 3530 Printer Driver
IBM PC ☐ Cost: $100

☐ PC NEC 3530 with NEC SF Printer Driver
IBM PC ☐ Cost: $150

☐ PC NEC 7710 Printer Driver
IBM PC ☐ Cost: $100

☐ PC NEC 7715 Printer Driver
IBM PC ☐ Cost: $100

☐ PC NEC 7730 Printer Driver
IBM PC ☐ Cost: $100

☐ PC NEC 7730 with NEC SF Printer Driver
IBM PC ☐ Cost: $150

☐ PC Okidata 2410 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Okidata 82 and 83 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Okidata 84, 92 and 93 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Olympia ESW 3000 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Olympia ESW 3000 with Olympia SF Printer Driver
IBM PC ☐ Cost: $150

☐ PC Qume Sprint 11/55 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Qume Sprint 11/55 with Olympia SF Printer Driver
IBM PC ☐ Cost: $150

☐ PC Toshiba P1350 and P1351 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Wang 2233 and 2235 Printer Driver
IBM PC ☐ Cost: $100

☐ PC Wang 2281 with Wang SF Printer Driver
IBM PC ☐ Cost: $150

☐ PC Wang 2281W Printer Driver
IBM PC ☐ Cost: $100

WAYMAN AND ASSOCIATES, INC.

☐ Laser-Pac
Interfaces word processing documents and data processing reports to laser printer. Assists user in changing fonts and typesetting.
IBM PC ☐ Copies sold: 50 since 1985

WRITING CONSULTANTS

(division of Microlytics, Inc.)

☐ ProportionalStar
Modifies WordStar, enabling proportionally spaced printing and typeset-like text on page.
IBM PC ☐ 64 KB req. ☐ Copies sold: 2,500 since 1984 ☐ Cost: $75

XYTON, INC.

☐ Typeon
IBM PC ☐ 64 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $40

ZEBRA SYSTEMS

☐ Mini-Print
Uses 216 dots-per-inch line-spacing and dual-density graphics capabilities of printer to produce 6-point font, 2 lines at a time. Prints 6 mini-pages on each 8 ½ X 11 sheet. Tab size and size and number of mini-pages on each sheet are adjustable.
IBM PC ☐ Cost: $30

Z-SOFT CORP.

☐ FontPak S1
Contains additional stroke fonts for PC Paintbrush. Includes other versions of standard Paintbrush typestyles and cartographic/drawing symbols. Provides Cyrillic characters and mathematical symbols.
IBM PC, XT, AT ☐ Cost: $50

PROGRAM GENERATORS

ACS SYSTEMS, INC. (VA)

☐ QAD (Quick-Quality Application Development)
IBM PC ☐ Copies sold: 1 since 1986 ☐ Cost: $1,999

ALLEN, EMERSON & FRANKLIN, INC.

☐ GTP
Produces source code from paint-the-screen input. Field edits, 3-way data base search, table look-up functions, full-screen input, color and help facility.
IBM PC ☐ 96 KB req. ☐ Copies sold: 120 since 1985 ☐ Cost: $100

AUSTEC, INC.

☐ ACEGen
COBOL source code generator. Data dictionary creates data base specification. Screen generation defines screen displays for I/O. Program generation creates interactive file maintenance/inquiry, report/forms printing and file processing programs. Requires ACE COBOL and ACEBridge.
IBM PC

DAVID R. BLACK & ASSOCIATES, INC.

☐ COBOL Program Generator
Supports data entry, reporting and utility functions. Maintains central data dictionary. Provides master system menu control, multi-file reports and sorted reports. Includes screen building and project control functions.
IBM PC ☐ 60 KB req. ☐ Copies sold: 150 since 1979 ☐ Cost: $40,000-$50,000

☐ Information Support System
Generates COBOL programs via screen painting. Handles touch screens, color CRTs and multiple printers. Provides multi-languages. Contains COBOL program generator, data dictionary, screen builder and report writer. Produces ANSI standard COBOL programs.
IBM PC ☐ Copies sold: 125 since 1979 ☐ Cost: $30,000-$50,000

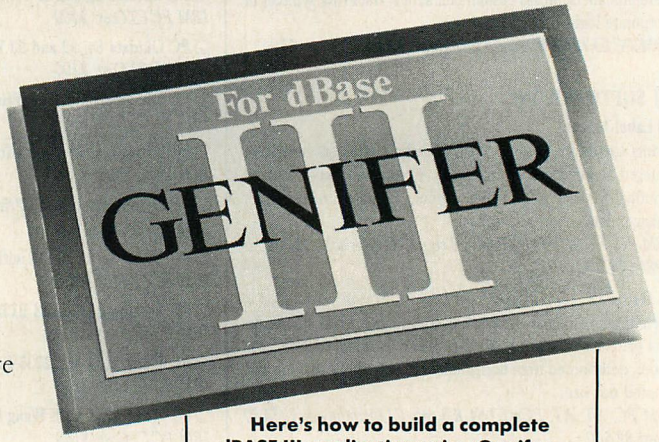
THE SOFTWARE BOTTLING COMPANY OF NEW YORK
6600 Long Island Expressway
Maspeth, NY 11378
(718) 458-3700

Screen Sculptor creates professional looking, fully functional screens in minutes, then writes the program either in IBM BASIC, Turbo Pascal, IBM Pascal, or QuickBASIC. Uses simple word processor style screen editor. Instantly generates fully commented, bug-free program source code to provide data entry. Price $120.

THE SOFTWARE BOTTLING COMPANY OF NEW YORK
6600 Long Island Expressway
Maspeth, NY 11378
(718) 458-3700

Flash code is a program developer for dBase II, III, and III Plus. Comes with a powerful screen editor, window editor, a program generator, and flash-up feature to put pop up windows and menus into dBase application. The window editor and flash-up feature together, create menus and windows that add new dimensions to dBase applications. No more license fee for flash-up module. Price $150.

IF YOU'VE GOT MORE IMPORTANT THINGS TO DO THAN CRANK OUT dBASE III CODE, YOU NEED GENIFER!



Now, get the highest quality programs in the shortest possible time.

Looking for a great way to slash development time and make yourself a lot more productive? Take a look at Genifer.

It's a remarkable dBase III application generator that lets you get a lot more work done in the same amount of time. And frees you up to do more creative things, like working on system design.

You see, Genifer generates code of truly superb quality in minutes. Well structured, self-documented code that's easy to understand. (Forget about studying programs for hours just to do a little modification!). You can even design-in your application specific features by quickly modifying Genifer's skeletons.

The bottom line? You can offload the grunt-work to Genifer and use your time more creatively and profitably. What's more, you can start delivering every job on time and on budget.

Sound too good to be true? Keep reading.

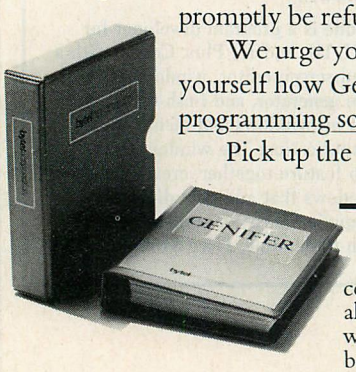
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Just see your dealer, or call the toll-free number below, and order Genifer for only $395. You get the full Genifer package, complete with 190 page manual, sample tutorial data, a tutorial version of Genifer, and the sealed product disk. Then try our tutorial and see for yourself if everything we say is true. If you're not completely delighted, return the material (including the sealed product disk) within thirty days of shipping. Your money will promptly be refunded. No questions asked.

We urge you to act immediately. Don't miss seeing for yourself how Genifer can provide you with a total programming solution!

Pick up the phone and call us right now.



Iron-clad money-back guarantee!

If, after trying the tutorial disks, you're not convinced that Genifer is all we say it is, just return all materials (including the sealed product disk) within 30 days of shipping, and your money will be promptly refunded.

Here's how to build a complete dBASE III application using Genifer.

- Describe your files and fields to Genifer's data dictionary.
- Paint the main menu, sub-menus and help screens with your text editor.
- Paint your interactive update and inquiry screens, marking the fields.
- Paint your reports – with headers, footers and up to 9 nested breaks.
- Give Genifer the rules to fill in the fields marked while painting.
- Tell Genifer how to link together your multiple databases.
- Now, let Genifer create all your dBASE programs – module-by-module.

Any changes? Genifer remembers! Just enter the new data and regenerate only your changed dBASE III modules.

Look at what you get in the dBASE III application Genifer creates for you.

- Standardized, high-quality, fully commented dBASE III source code.
- A bullet-proof end-user application that meets your unique requirements.
- Automatic validation of user entries against a list, range, or other file.
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- Unique "zoom" between multiple files helps you create realistic systems.
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- And much more.

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CIRCLE NO. 283 ON READERS SERVICE CARD

BRUBAKER SOFTWARE

☐ Baler

Program generator for Lotus 1-2-3 spreadsheet templates. Converts templates into Compiled BASIC programs that operate independently. Supports cell attributes, windows and titles, iteration, optimization, keyboard macros and nondestructive formula overrides.

IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $495

BYTEL CORP.

Software Development Division

SEE AD ON PAGE 364

☐ Cogen

Program generator for ANSI-74 COBOL including RM/COBOL, COBOL Plus and LEVEL II COBOL. Implements ANSI-74 standards. For business applications involving files, screens and reports. Self-documenting layouts.

IBM PC ☐ 128 KB req. ☐ Copies sold: 2,000 since 1981 ☐ Cost: $950-$7,500

CYBERNETICS, INC.

☐ CRT (COBOL Reprogramming Tool)

RM/COBOL program generator. Produces source programs for report printing and file maintenance with formatted or scrolling screen displays.

IBM PC ☐ 64 KB req. ☐ Copies sold: 1,000 since 1981 ☐ Cost: $950

DELPHI DATA SYSTEMS, INC. (MN)

☐ PC/Hibol

Tests IBM mainframe CICS/VS COBOL applications from PC. Generates COBOL and maps for mainframe operation and microcomputer COBOL. Produces maps for PC operation from same program specification.

IBM PC, XT, AT ☐ Cost: $995

E-Z GEN, INC.

☐ E-Z COB

Generates COBOL programs. Prototypes host systems including IMS, CICS and 8100/DPPX. Simulates data entry/display for 3270/3279 devices. Stores COBOL macros in reusable code library. Includes full-screen painting, user exits, color, windows and transaction scheduling monitor.

IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $495

EXTENDED APPLICATIONS, INC. (EAI)

☐ ABC (Application Builder Code Generator)

Application program generating system. Creates business-oriented application programs and source code. Handles data entry, report, sort, transaction processing, graphics, file reorganization and menu.

IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1981 ☐ Cost: $995-$5,500

FOURCOLOR DATA SYSTEMS, INC.

☐ Fastbase and Fastbase III

Reviewed Jun 1984 p. 200.

dBASE II and III program generator. Generates dBASE command files for file maintenance, record searching, reports, screens, menus, labels, merging data base and updating data bases. Comes with command file utility.

IBM PC ☐ 64 KB req. ☐ Copies sold: 1,000 since 1982 ☐ Cost: $249 (Fastbase); $295 (Fastbase III)

FOX & GELLER, INC.

☐ Quickcode

Reviewed Jun 1984 p. 129.

Program generator for dBASE II for micros. Writes programs in dBASE II code to set up and maintain any type of data base. Prints forms and mailing labels or transfers data to WordStar/MailMerge.

IBM PC ☐ 48 KB req. ☐ Introduced: 1982 ☐ Cost: $195

☐ Quickcode for dBASE

dBASE III and III Plus program generator. Creates application/file maintenance system. Retrieves, edits, deletes, prints and transfers data to WordStar/Mail Merge, or prints mailing labels from dBASE III data files. Generates dBASE III source code.

IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $295

GENERAL DATA SYSTEMS, LTD.

☐ Dx Program Generator

Non-procedural application generator. Takes design methodology as input and generates application including screens, databases, reports and processing logic. Generated code portable to micro, mini and mainframe.

IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983

KOS & ASSOCIATES, INC.

☐ KOPE (KOBOL On-line Programming Environment)

Structured COBOL source code generator, standards enforcer, documentation generator and library facility. Screen data combined with structured COBOL program skeleton models providing standardized framework for all program development.

IBM AT/370 ☐ 128 KB req. ☐ Copies sold: 3 since 1980 ☐ Cost: $6,500

MAJIC SOFTWARE, INC.

☐ Pro-C

C-code generator. Modules include painters, menu generator, report generator, record definition, screen generator and update generator. Utilizes ISAM file handling technique. Interfaces with any ISAM handler being used.

IBM PC ☐ 256 KB req. ☐ Cost: $70

☐ Pro-C Workbench

Distributed source code. Facilitates porting to various machines.

IBM PC ☐ Cost: $200

MATRIX SOFTWARE TECHNOLOGY CORP.

☐ Synergy Layout

Generates graphics-based windowing software. User chooses from on-screen windows, menus, dialog boxes, fonts, desktop accessories and text, and follows fill-in-the-blank instructions. Creates applications such as desktop publishing, computer-aided instruction and graphic user-interfaces for text-oriented software.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $395

KEN ORR & ASSOCIATES, INC.

☐ Structure(s)/PC and COBOL Code Generator

Automates production and maintenance of Warnier/Orr diagrams. Data structured development workstation for design and generation of COBOL programs.

IBM PC, XT, AT ☐ 196 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $995

PROGRAMMING CONCEPTS, INC.

☐ CList

Provides printed output of source code for programs written in C. Sets program pagination, titling options, variable tabs and printer controls. Merges address information and program listing. Generates variable name, cross-reference list for each source code module. Supports software engineering metrics.

IBM PC ☐ 128 KB req. ☐ Copies sold: 42 since 1985 ☐ Cost: $129

SCANDURA INTELLIGENT SYSTEMS

(division of Intelligent Micro Systems, Inc.)

☐ Turbo FLOW and Turbo FLOW 512

Program design, documentation, implementation and maintenance in integrated top down structured environment. Personal model works with Turbo Pascal compiler. Accommodates FLOWforms six screens long. Turbo FLOW 512 allows FLOWforms of arbitrary size. Features structure embedding and arbitrary screen contraction.

IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 512 since 1986 ☐ Cost: $96-$148

PROGRAMMING UTILITIES

A-OK SYSTEMS

☐ TP*Linker

Converts Turbo Pascal procedures into linkable external procedures. Library procedures link into debugged code. Eliminates recompilation and relisting of already debugged code. Distributes procedures written in Turbo Pascal in nonsource code form.

IBM PC, XT, AT ☐ Cost: $69-$99

ABACUS PROGRAMMING CORP.

☐ BLINK-BASIC Library And Include Capability

Saves and reuses BASIC subroutines. Allows for reusable libraries for frequently used BASIC code. Symbol reference, subroutine and selective inclusion in problems controlled by contents of source.

IBM PC ☐ 64 KB req. ☐ Cost: $30

ADVANCED COMPUTER CONCEPTS, INC.

☐ APDL (Advanced Program Design Language)

Monitors software design, enforces design standards and ensures complete designs before coding. Table of contents, data structure descriptions, module overview/description/implementation, procedure index/cross reference, nesting trees and automatic pagination.

IBM PC ☐ 128 KB req. ☐ Copies sold: 42 since 1982 ☐ Cost: $695

DATA MANAGEMENT CONSULTANTS
5325 S. Valley Blvd.
Suite 7
Las Vegas, NV 89118
(702) 798-5910

ZVIEW: This C programmers' application screen development tool includes a full screen interactive screen design utility, a full set of runtime functions to manage screen displays and data screen processing, single level windowing feature, automatic data conversion and security level validation. Free product updates. IBM PC, XT, AT—Cost: $245

ESP SOFTWARE SYSTEMS, INC.
11965 Venice Blvd., Suite 309
Los Angeles, CA 90066
(213) 390-7408 in California
(800) 992-4ESP outside California

Command Plus is a programmer's shell that replaces MS-DOS® Command. It offers enhanced versions of DIR, COPY, and DEL, plus command macros and recall, command editing, file browsing, a LOG facility, and SCRIPT, a powerful batch processor that features a Pascal-like language. Priced at $79.95.

Fortran Support for
IBM PC/XT/AT & Compatibles

Versions Available For:
Microsoft, Supersoft, RyanMcFarland, IBM Professional, Lahey, & IBM Fortran.

Forlib-Plus
$69.95

Supports graphics, interrupt driven communication, program chaining, and file handling/ disk support. A Fortran coded subroutine is included which will plot data on the screen either in linear/linear, log/linear, linear/log, or log/log on the appropriate grid.

Strings & Things
$69.95

Supports string maipulations, command line usage, DOS call capabilities, SHELL generation and data transmission, BATCH file control, music generation, PEEKS and POKES, PORT access, and general register manipulations.

For-Winds
$89.95

Gives the Fortran programmer the capability of generating up to 255 windows on the screen. Each window can be individually scrolled, moved, sized, generated, and removed. Both color and monochrome type displays are supported. Full source code is supplied for customization.

ACS Time Series
$495.00

This is a COMPLETE time series analysis package which contains VERY HIGH SPEED FFTs, Filter generations, convolutions, transfer function calculations, auto and cross spectra calculations, Cepstrum, curve fitting algorithims, coherence calculations, and many other associated routines. The price includes FULL source code.

Fortran Scientific Subroutine Package
$295.00

There are approximately 100 Fortran subroutines included which fall under the following 12 categories:
1) Matrix storage and Operations 2) Correlation and Regression, 3) Design Analysis (ANOVA), 4) Descriminant Analysis, 5) Factor Analysis, 6) Eigen Analysis, 7) Time Series, 8) Nonparametric Statistics, 9) Distribution Functions, 10) Linear Analysis, 11) Polynomial Solutions, 12) Data Screening. Full source code is included.



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Cypress, California 90630
(714) 828-0286

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CIRCLE NO. 101 ON READERS SERVICE CARD

AGS COMPUTERS, INC.

☐ Smart/C
Pre-compilation development environment for C. Provides syntax-directed editing and interpretation of C source. Edits and debugs programs created outside system. Testing can be done on a module by module basis.
IBM PC ☐ Introduced: 1985 ☐ Cost: $500

AIP

☐ BASIC Compressor
Relaxes size constraints of IBM BASIC compiler. Cross-reference list of variables, functions and line numbers. Shortens variable names, removes unreferenced statement numbers and packs lines. Produces BASIC source module 50 percent the size of original program.
IBM PC, XT ☐ 128 KB req. ☐ Cost: $100

ALDEBARAN LABORATORIES, INC.

☐ Source Print
Outlines program structure nesting. Indents by nesting level. Prints key words in bold face. Adds table of contents to listings. Extracts routines by name from one or more files. Creates new files. Reindents source files. Performs pagination, indexing and cross-referencing.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1986 ☐ Cost: $139

ALDIA SYSTEMS, INC.

☐ PCLocate
Allows PC users to develop ROM-based code for execution on target system. Outputs files in extended Intel hex format for compatibility with PROM programmers, debuggers and emulators. Compatible with relocatable object modules from MSDOS, PCDOS and compatible linkers.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $250

ALLEN, EMERSON & FRANKLIN, INC.

☐ Turbo Tools
Sub-routines and functions include date, time, day-of-week, elapsed timer, hex, sort and sector I/O. 44 development routines.
IBM PC ☐ 96 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $30

ANALOG DEVICES, INC.

☐ ADDS-2121
Cross-software development for ADSP-2100. Includes assembler, linker, system builder and PROM splitter.
IBM PC ☐ Cost: $450

☐ ADDS-2122
Cross-software development for ADSP-2100. Includes simulator.
IBM PC ☐ Cost: $975

APPLIED DATA RESEARCH, INC.
(an Ameritech Co.)

☐ PC PTE (Person Terminal Environment)
Operates as extension of ADR's Roscoe and Vollie mainframe environments. Provides editor, windows and micro-to-mainframe transparent file transfer.
IBM PC, XT, AT, 3270-PC ☐ 320 KB req. ☐ Introduced: 1985 ☐ Cost: $6,695-$9,695

APPLIED KNOWLEDGE GROUPS, INC.

☐ FORMS
Screen display compiler and library package. C-language code generator and 60 utility functions. Redirected I/O and alternate keyboard mapping.
IBM PC ☐ 128 KB req. ☐ Copies sold: 22 since 1984 ☐ Cost: $395

ASHTON-TATE

☐ dBRUN
Runs the code condensed by dBCODE and implements most dBASE features.
IBM PC, XT, AT

☐ Runtinet
Includes dBCODE for encrypting dBASE programs and dBLINKER for linking dBASE program files together for faster execution.
IBM PC, XT, AT

AT&T
Electronic Photography and Imaging Center

☐ Truevision Image Capture Board Software Tools
Contains C-language source file utilities which demonstrate how to set control and display registers. Initializes ICB. Captures images. Writes data to display memory. Includes high-level tools for drawing geometric figures including lines, rectangles, arcs and ellipses, and text.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $25

☐ Truevision TARGA Software Tools
Contains C-language source file utilities which demonstrate how to set control and display registers. Initializes TARGA 8, 16, 24 or 32 board. Captures images. Writes data to display memory. Includes high-level tools for drawing geometric figures including lines, arcs, rectangles and ellipses, and text.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $25

☐ Truevision VDA/D, VDA Software Tools
Contains C-language source file utilities which demonstrate how to set control and display registers. Initializes VDA/D or VDA. Writes data to color map memory and display memory. Includes high-level tools for drawing geometric figures including lines, rectangles, arcs and ellipses, and text.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $25

AUTOMATED OFFICE SYSTEMS

☐ EZdBASE Programming Utility
Reviewed Jun 1984 p. 181.
Development tool for dBASE II and dBASE III. Creates menus, data entry screens and data files using 256 ASCII characters. Supports 128 fields/screens.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $100

AUTOMATED TECHNOLOGY, INC.

☐ Programmer's UtiliPac
Includes cross-referencing, program compare, list function, remark stripper and file conversion capability.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $159

AVOCET SYSTEMS, INC.

☐ AVMAC Series
Macro assembler for Motorola microprocessors. Linker produces absolute object file in Intel, Motorola or Tektronix hex format, suitable for downloading to EPROM programmer, debugger, or emulator. Library, cross-reference generator and utility programs.
IBM PC ☐ 256 KB req. ☐ Cost: $349

BASIC BUSINESS SOFTWARE, INC.

☐ IBM BASIC Utilities
Base source code references, full screen editor, program listing utility, line drawing basic subroutine, input and change message subroutine, random file search subroutine and matrix functions basic subroutine.
IBM PC ☐ 48 KB req. ☐ Cost: $75

BETATOOL SYSTEMS

☐ BDS (BASIC Development System)
Reviewed Jun 1986 p. 196.
Generates cross-reference table. Locates strings and keywords. Renumbers, relocates, duplicates and compresses code.
IBM PC ☐ 64 KB req. ☐ Copies sold: 5,000 since 1982 ☐ Cost: $125

BIT SOFTWARE, INC.

☐ **Forms Designer**
Tool for IBM Pascal/FORTRAN users. Reduces time required to lay out forms. Data entry validation during screen design procedures.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $275

BLAISE COMPUTING, INC.

☐ **C Tools**
Reviewed Jun 1985 p. 100.
Enhances Microsoft, Lattice and Computer Innovations C compilers. String/data handling, graphics interface, prompt display, response reading and random number generator.
IBM PC, XT, AT ☐ Introduced: 1983 ☐ Cost: $125

☐ **C Tools Plus**
Library of C program utilities. String and screen handling including support for multiple monitors and EGA. Includes graphics interface, utility/keyboard functions, DOS file handling and directory maintenance. Windows stack, remove and accept user input. Supports interrupt service routine.
IBM PC, XT, AT ☐ Introduced: 1986 ☐ Cost: $175

☐ **C Tools 2**
Reviewed Jun 1985 p. 100.
Enhances Microsoft, Lattice and Computer Innovations C compilers. Manages memory, external execution, file handling, buffer management and write/invoke interrupt routines.
IBM PC, XT, AT ☐ Introduced: 1983 ☐ Cost: $100

☐ **C VIEW MANAGER**
Creates/modifies display screen, documents user-developed screens and accesses displays in Screen DataBase. Block mode capabilities, housekeeping functions and help facilities.
IBM PC, XT, AT ☐ Introduced: 1984 ☐ Cost: $275

☐ **EXEC-The Program Chaining Executive**
Multiple program chaining for languages using DOS loader. Chains programs in another language. Consists of chaining monitor and chaining function library.
IBM PC, XT, AT ☐ 9 KB req. ☐ Introduced: 1984 ☐ Cost: $95

☐ **Pascal Tools**
Reviewed Feb 1984 p. 161.
Enhances IBM and Microsoft Pascal compilers. Basic intrinsic functions include string functions, screen handling, screen and keyboard I/O utilities, graphics interface and application routines. Gate to BIOS functions.
IBM PC, XT, AT ☐ Introduced: 1982 ☐ Cost: $125

☐ **Pascal Tools 2**
Enhances IBM and Microsoft Pascal compilers. Program control, memory management, file handling, directory maintenance and DOS information.
IBM PC, XT, AT ☐ Introduced: 1983 ☐ Cost: $100

☐ **Turbo ASYNCH**
Assembler and Turbo Pascal language interface. Functions library that initialize COM ports, interrupt services and transfer data between circular queues and communication ports. Supports transmission speeds of up to 9600 baud, I/O queues, XON/XOFF protocol and flexibility in configuring RS232 ports.
IBM PC, XT, AT ☐ Introduced: 1985 ☐ Cost: $100

☐ **Turbo POWER TOOLS**
String handling, screen support and window management. Accesses BIOS and DOS services. Program control allows execution of any program from within Turbo Pascal applications. Interrupt service routine.
IBM PC, XT, AT ☐ Introduced: 1985 ☐ Cost: $100

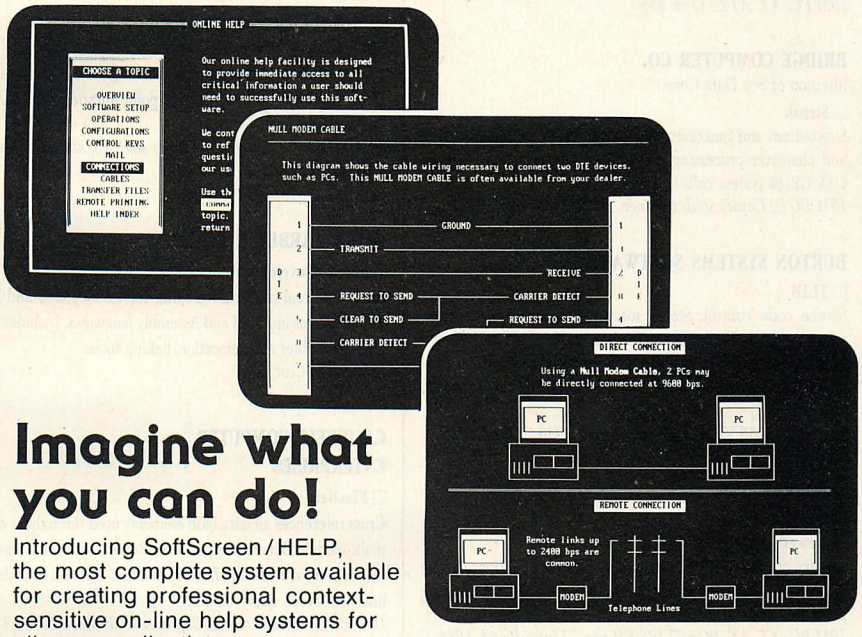
BLT BUSINESS SYSTEMS, INC.

☐ **UFIX1 Utility Program**
IBM PC ☐ 64 KB req. ☐ Copies sold: 20 since 1981 ☐ Cost: $65

BORLAND INTERNATIONAL, INC.
SEE AD ON INSIDE COVER & PAGE 1

☐ **Turbo Database Toolbox**
Reviewed Feb 1985 p. 102.
Contains Turbo-ISAM, Quicksort, GINST and modifiable data base in Turbo Pascal.
IBM PC ☐ 64 KB req. ☐ Copies sold: 50,000 since 1984 ☐ Cost: $55

Using SoftScreen™/HELP we built this sample help system in under 2 hours without programming . . .



Imagine what you can do!

Introducing SoftScreen/HELP, the most complete system available for creating professional context-sensitive on-line help systems for all your applications.

Finally there is a tool that allows any creative person to build complete on-line help systems. With SoftScreen/HELP, screens that would take days to design, build and modify can now be done in hours.

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SoftScreen/HELP is not a program generator. It creates a highly compressed, fully indexed data file which is accessed through our Runtime Manager. SoftScreen/HELP will not interfere with other software tools you use to build your applications.

SoftScreen/HELP runs on the IBM-PC™ and true compatibles with MS-DOS™ 2.0 or higher. It requires 256K memory (only 32K at runtime, in addition to your application) and supports Monochrome and CGA in text mode. A hard disk is recommended. SoftScreen/HELP supports most programming languages. Call for the latest information.

SoftScreen/HELP costs $195 and comes with a 30-day money back offer. Telephone support is provided from 8 a.m. to 8 p.m., Eastern time, Monday through Friday. Not copy protected and no royalties. Source code and UNIX™ versions are available.



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BOS NATIONAL, INC.

☐ Development Pack
Combines BOS/MicroCOBOL, BOS/MicroCOBOL Advanced Programming Facilities and BOS/AutoClerk.
IBM PC, XT, AT ☐ Cost: $1,200-$2,400

☐ MicroCOBOL APF
Advanced programming utilities including screen formatter, job management, assembler interface and systems programming. Requires BOS/MicroCOBOL.
IBM PC, XT, AT ☐ Cost: $550

BRIDGE COMPUTER CO.

(division of Sea Data Corp.)

☐ Strpak
Subroutines and functions for FORTRAN-80 compilers. String and character processing. Directional character and number I/O. CP/M system calls and file controls.
IBM PC ☐ Copies sold: 60 since 1980 ☐ Cost: $55-$225

BURTON SYSTEMS SOFTWARE

☐ TLIB
Source code control. Stores successive versions of program source code in library file with date and comments for each version. Shares libraries with PC Network. Check in/out. Synchronized control of multiple related source files. Dyer MAKE Utility.
IBM PC ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $100

C SOURCE, INC.

☐ BASIC-C Library
Reviewed Oct 1984 p. 117.
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C WARE CORP.

SEE AD ON PAGE 368

☐ DeSmet C Development Package
Reviewed Jan 1986 p. 82.
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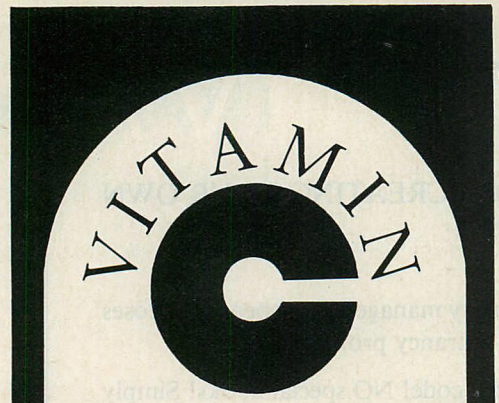
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SEE AD ON PAGE 372

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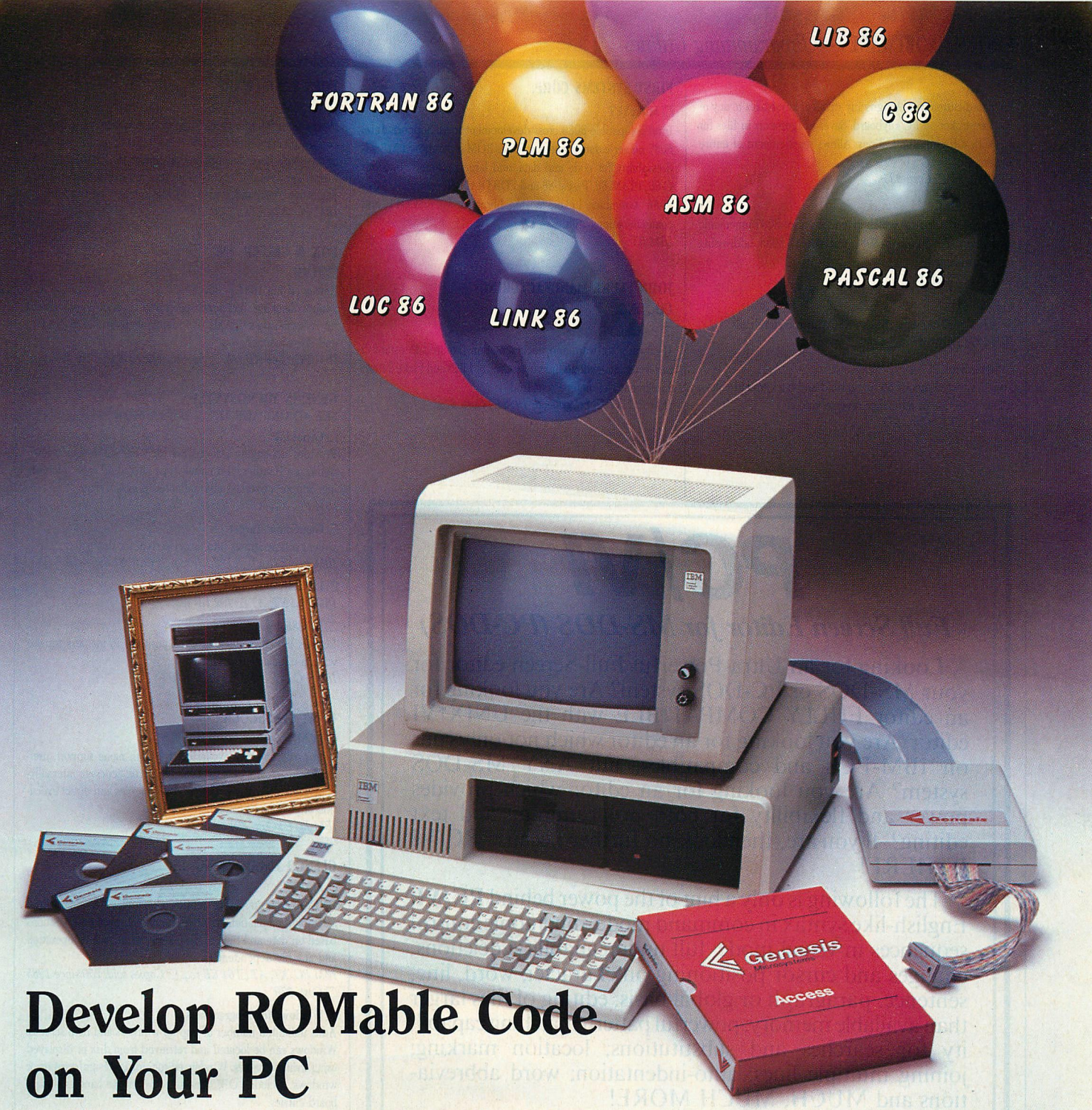
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FOX & GELLER, INC.

☐ dUTIL
Reviewed Jun 1984 p. 80.
Syntax checking, increased speed and program improvement for Ashton-Tate's dBASE II. Indents/aligns if/end if and do/end do sequences.
IBM PC ☐ 48 KB req. ☐ Introduced: 1982 ☐ Cost: $79

GENESIS MICROSYSTEMS
SEE AD ON PAGE 373

☐ GeneLink
Provides debugging information for GeneScope source level debugger. Handles intermodule type check and cross referencing. Supports overlays and unlimited program sizes.
IBM PC, XT, AT

☐ GeneScope/Target
Downloads programs into target system for debugging.
IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $1,395

☐ LINK86
IBM PC, XT, AT ☐ 192 KB req.

☐ LOC86
Locates linked modules to fixed positions in memory for use with in-circuit emulators.
IBM PC, XT, AT ☐ 192 KB req.

G. W. GLASSCOCK

☐ PCMK
Wild card character expansion, full path name support, user-defined macros, access to DOS via macros, access to internally-generated macros, user-defined built in rules and direct execution of commands using path variable.
IBM PC ☐ Cost: $21

GLENCO ENGINEERING, INC.

☐ MAKE
UNIX-like programming utilities which allows for conditional assembly/compilation or other functions. Permits operations based on date and time of files. User defines which operation and any file dependencies.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 250 since 1985 ☐ Cost: $79

☐ Windows for Programmers
Adds unlimited number of pop-up windows and help screens. Windows can be located and retrieved from disk or displayed using string variables. Window editor aids in design/creation of windows. Includes .OBJ. Line-selector routine handles all keyboard entries.
IBM PC ☐ Copies sold: 750 since 1985 ☐ Cost: $99

☐ Windows for Programmers with Data Entry
Handles all keyboard entry programming tasks. Supports 40 routines. User places call and links in library.
IBM PC ☐ Copies sold: 150 since 1986 ☐ Cost: $99

☐ Windows for Programmers with Graphics
Creates video screens using user's video camera, VCR or TV tuner. Works in 320 X 200 mode. Includes video board and linkable library.
IBM PC ☐ Copies sold: 50 since 1986 ☐ Cost: $399

GOLD HILL COMPUTERS

☐ GC LISP 286 Developer
Programming environment designed for GC LISP-based applications requiring extended memory and faster execution. Includes large memory interpreter addressing 15 MB of physical memory, large memory compiler and program development capabilities comprising lexical/dynamic scooping.
IBM PC, AT ☐ 512 KB req.

GOTOLESS CONVERSION

☐ **BCMP**

I/O of BASICA ASCII file. Compresses as many statements as possible into single multi-statement to relax size constraints of BASIC compiler. Syntax error list pinpoints error if syntax error is found.

IBM PC ☐ 128 KB req. ☐ Copies sold: 10 since 1985 ☐ Cost: $39

☐ **BEXP**

I/O of BASICA ASCII file. Expands multi-statement into many single statements. Indents for-next loop and while-wend loop. Line number, which is referred to by another statement, is commented. Syntax error list pinpoints the error if syntax error is found.

IBM PC ☐ Copies sold: 22 since 1985 ☐ Cost: $39

☐ **BX**

Cross-reference reporter. Prints identifier cross-reference line number cross-reference, statement cross-reference, dead code and undefined line number list and syntax error list. Sorts identifiers alphabetically.

IBM PC ☐ 128 KB req. ☐ Copies sold: 10 since 1985 ☐ Cost: $39

GRACON SERVICES, INC.

☐ **Turboref**

Reviewed Mar 1986 p. 179.

Cross-reference/lister utility for Pascal source programs. Provides control blocks, procedure name and source file for each line, highlighted comments and underlined reserved words. Lists line number for each use of variables/constants and type of use for each reference.

IBM PC ☐ 128 KB req. ☐ Cost: $50

GRAHAM SOFTWARE CORP.

☐ **Alice: The Personal Pascal**

Tool for novice Pascal programmers. Provides interactive programming and learning environment. Provides Turbo Pascal compatible interpreter, debugging facility, language-directed editor and over 600 help screens.

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☐ **Turbo Forms**

Ensures user input is correct before reaching Turbo Pascal program. Provides unlimited character and field level data checking. Includes form creation and modification. Formats using color graphics and windows.

IBM PC ☐ Cost: $40

GREENLEAF SOFTWARE, INC.

☐ **Functions**

Reviewed Jun 1985 p. 100.

Library of 200 C functions. Access to DOS and BIOS functionality. String video, color text, printer, async, time and data random I/O functions.

IBM PC, XT, PCjr, AT ☐ 128 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $185

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☐ **Develop**

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☐ **dB/RA - The dBASE II and dBASE III Plus Array/Windows Program**

Reviewed Jun 1984 p. 80.

Expands memory variables from 63 to 65,000. Uses 100 arrays in 1-2-3Ds. Pop-up, scrollable windows. Lotus-like menus, graphics and DOS interrupts. Compatible with Clipper and Lattice C.

IBM PC ☐ 128 KB req. ☐ Copies sold: 225 since 1983 ☐ Cost: $200

☐ **dBPOWERPAK III**

Keyword searches on dBASE III memo fields. Creates index file and DBF file containing all keywords. Updates any changes. Looks for occurrences of words which sound like requested keyword. Checks status of printer from within dBASE program.

IBM PC ☐ 384 KB req. ☐ Introduced: 1985 ☐ Cost: $99

☐ **dHELPER - The dBASE II debugger**

Pre-compiler for dBASE II. Sets listing parameters and performs macro substitution. Syntax checker. Groups loops, compresses out spaces and produces cross-referenced dictionary of variables, keywords, constants and files.

IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $150

GTEK, INC.

☐ **PALX**

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IBM PC

☐ **PGX Utilities**

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IBM PC

JAMES HALSTEAD & ASSOCIATES

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H & S SOFTWARE

☐ Alliance

Replaces input statement in BASIC with multi-purpose subroutine for error trapping. Editing and error checking. Uses insert, delete and other functions in program prompts.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $15

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ BASIC Programming Development

Reviewed Jul/Aug 1983 p. 107.
IBM no. 6024-046.
IBM PC, PCjr ☐ Cost: $130

☐ CICS/CMS (Customer Information Control System/ Conversational Monitor System)

IBM no. 5668-795. Provides ability to edit interactively, translate, compile and assemble and initially test CICS command-level COBOL, PL/1 and Assembler application programs in VM/CMS environment.
IBM AT, XT, AT/370, XT/370 ☐ Cost: $15,000

☐ CVIEW (Cooperative Viewing Facility)

IBM no. 5664-296. Allows two VM/SP users at separate display stations to share single interactive terminal session. Provides centralization of data processing support and services. Used for remote consultation, education, problem management, program maintenance and demonstrations.
IBM 3270-PC, XT/370 ☐ Introduced: 1983 ☐ Cost: $6,600

☐ Data Acquisition and Control Adapter Programming Support

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IBM PC ☐ Cost: $160

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IBM no. 6316-969. Conversational interface between user and application program. Receives commands and information through predefined screens and transfers information to PC application program. Returns information from application program to user.
IBM PC

☐ EZ-VU Editor (ISPF/PDF PC Editor)

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IBM PC, XT, AT, PCjr, Portable PC, 3270-PC, 3270-AT ☐ 256 KB req. ☐ Cost: $150

☐ GPIB (General Purpose Interface Bus Adapter) Programming Support

IBM no. 6024-201. Scientific programming support utility. Controls, monitors and accesses multiple devices or instruments such as multimeters, plotters, disk drives and printers. Supports up to four GPIB Adapters and 48 devices.
IBM PC ☐ Cost: $395

☐ VM/IPF XT/370

IBM no. 5748-MS1/01.
IBM XT/370 ☐ Cost: $196

IBM PERSONALLY DEVELOPED SOFTWARE

☐ Assembler Programming Package

IBM PDS no. 6276-578. Consists of DOS Enhanced Debug, Object Library Maintenance and Structured Assembler Translator.
IBM PC, XT, AT, Portable PC, PCjr ☐ 128 KB req. ☐ Cost: $50

☐ Extended BASIC Programming

IBM PDS no. 6276-625. LES-BASIC (Language Extension System-BASIC), BASIC Memory Extender and UnNumber utilities. LES-BASIC accesses DOS 2.00 or 2.10 only. Monochrome and color EGA support.
IBM PC, XT, Portable PC ☐ 128 KB req. ☐ Cost: $35

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IBM PDS no. 6276-584. Allows use of math co-processor with Assembly language programs. Uses macros to include 8087/80287 opcodes. Monochrome and color EGA support.
IBM PC, XT, AT, Portable PC ☐ 128 KB req. ☐ Cost: $25

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IBM PC, XT, AT, Portable PC, 3270-PC ☐ 128 KB req. ☐ Cost: $15

☐ Structured Assembler Translator

IBM PDS no. 6276-550. Nests if, else, elseif, while and repeat statements to depth of 256. Imbeds external files that should be included and translated. Defines synonyms for frequently used phrases. Chooses or can switch between signed and unsigned comparisons. Color EGA support.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $35

☐ Structured BASIC Facility

IBM PDS no. 6276-618. Editor, preprocessor and generator. Creates/edits programs with line/full-screen editing. Converts Structured BASIC source files for BASIC Interpreter and BASIC Compiler. Converts existing BASIC source file into Structured BASIC source file. Monochrome and color EGA support.
IBM PC, XT, AT, PCjr, Portable PC ☐ 128 KB req. ☐ Cost: $55

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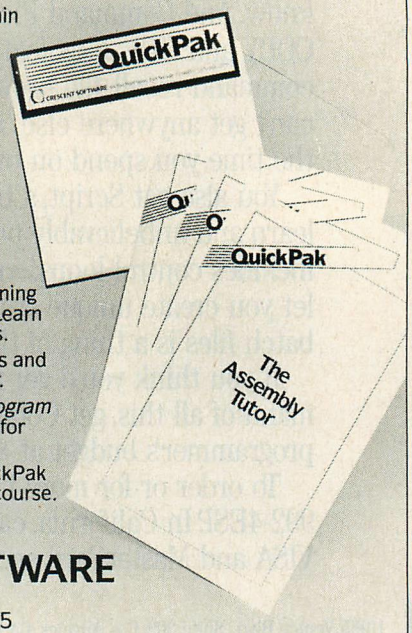
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THE INTELLIGENT COMPUTER USERS GROUP

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Pin to pin replacement of 8088 or 8086 CPU. Speeds program execution.
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☐ M2SDS (Modula-2 Software Development System)
Syntax-directed editor for one-keystroke statement entry. Background compiler compiles line-by-line as program is entered. Windowing allows concurrent editing of two-or-more files. Standard library and link-and-run modules.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 6,000 since 1985 ☐ Cost: $81

☐ SDS-XP (Modula-2 Software Development System Expansion)
Expands capabilities of M2SDS. M2MAKE tool for recompiling and relinking program from roots up. Foreign object importer for importing programs written in assembly language. Extended libraries include 24 library modules and resource library.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 5,000 since 1985 ☐ Cost: $249

INTERLINK SYSTEMS, INC.

☐ Turbo Matrix
Creates large arrays at run time. Recovers memory when arrays are no longer needed. Reads/writes matrixes. Performs scaler/matrix multiplication and matrix addition. Copies all/part of matrix. Solves linear equations.
IBM PC, XT, AT ☐ Cost: $99

INTUITIVE DESIGNS, INC.

☐ PC/AMS (PC/Access Management System)
Enforces, maintains and controls PC resources, and provides user interface. Includes login procedure with audit trail. Allows customized and nested menus. Provides menu option parameters, control programs and maintenance facilities.
IBM PC ☐ 150 KB req. ☐ Cost: $185

JBSOFTWARE

☐ DASM
8086/88 disassembler. Generates symbolic assembler source from .exe, .com, or .sys input files. Generates segment assumes, offset loads for subsequent register addressing and maps code referenced via transfer vectors.
IBM PC ☐ 100 KB req. ☐ Copies sold: 140 since 1985 ☐ Cost: $50

KEA SYSTEMS, LTD.

☐ DECkHAND
Programming utilities. DIR utility includes switches for sorting by name, type, size and date. Copy, rename and type utilities include switches for querying and logging. Path name support and extended wildcard support.
IBM PC, XT, AT, PCjr ☐ 192 KB req. ☐ Cost: $69

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☐ DataBurst
Contains source generators for BASIC and C. Develops mainframe-like on-line programs.
IBM PC, XT, AT ☐ 96 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $125

THE KEYSOFT NETWORK, INC.

☐ APL*Plus Tools Volume 2
Library of standardized programmers tools and application building software.
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KNOWLEDGEWARE, INC.

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(division of PTI Industries)

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IBM PC, XT

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IBM PC ☐ Cost: $99

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CQL Query System. A subset of the Structured English Query Language (SEQUEL, or SQL) developed by IBM. Linked files, stored views, and nested queries result in a complete query capability. File system interaction isolated in an interface module. Extensive documentation guides user development of interfaces to other record oriented file handlers.

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LIFEBOAT ASSOCIATES
SEE AD ON PAGE 291

☐ C Food Smorgasbord
Reviewed Jun 1985 p. 100.
Routines for decimal/floating decimal arithmetic, low-level I/O on CRT keyboard printer and IBM PC or Victor 9000, BIOS interface for screen management. Supports graphics, memory management and BD Software C compatible functions.
IBM PC ☐ 128 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $150

LUGARU SOFTWARE, LTD.
SEE AD ON PAGE 378

☐ Epsilon
Programming editor. C-like extension language, unlimited file size and number of files, EMACS-style command set, regular expression search/replace, source level tracing debugger, execution profiler, DOS path support and directory perusal. Runs programs while editing. Uses swap file.
IBM PC ☐ Cost: $195

MAJOR SOFTWARE

☐ PascalPac
Reviewed Mar 1986 p. 180.
Programming tools for cross referencing. Generates cross reference table for Pascal program. Lets user browse table and associated program simultaneously. Listing program allows printing of programs, cross reference tables and other text files. Works with TIDY.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $69

☐ Tidy
Reviewed Oct 1984 p. 22; Mar 1986 p. 180.
Formatter. Transforms Pascal program into form that is simpler to read and modify. Integrates with PascalPac.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $49-$69

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True Concurrency. Don't be fooled by misleading claims of concurrency from other vendors: this is *true concurrency,* not some simple "run the program and return" facility. Run compilers, linkers, etc., inside Epsilon and they run *as you work.* Epsilon's concurrency integrates buffer management and program I/O. The full power of Epsilon is always available to edit program input and output. You're free to edit other things while these programs run.

Ultimate Customizability. You may have seen some other vendors hinting that they have a C-like extension language. Don't be fooled. Ask them if their extension language has the syntax and types of C. Epsilon uses an embedded C interpreter for its extension language, complete with all the data types and operators of C. This is a *real language,* not an afterthought. All of Epsilon's commands were written in it, and it's fast!

No-Nonsense Help. Some editors offer a help screen or two listing the most basic commands—useless after the first week. Others spit out everything from a fixed file—which means they can't tell you about your changes to the keyboard, or commands you've added. We think an editor that claims to be reconfigurable should be smart enough to reflect your changes in its help system. Epsilon's extensive help system can tell you what commands apply to files, what a certain command does, which keys you can use to invoke it, what a certain key does. . . . Our help system remains helpful even if you make changes.

- Fast
- Concurrent Processes
- Multiple Windows
- Unlimited File Size
- On-line Tutorial
- Automatic Swap File
- Supports Large Displays
- Saves Deleted Text (n times)
- EMACS style command set
- Context Sensitive Help
- Regular Expression Search
- Unlimited Number of Files
- File/Command Name Completion
- Convenient Keyboard Macros
- Directory Perusal
- Uses All Available Memory

Our Guarantee to You. We know it's difficult to find software that works for you. That's why we made Epsilon the most customizable editor on the market. And that's why we offer a *30 day return privilege* with a complete refund. We're confident that once you've tried Epsilon, you won't go back.

So call **(412) 421-5911** to order Epsilon at no risk using your Visa, MasterCard, or American Express card. Company PO's and C.O.D. orders are also welcome. Epsilon runs on 256K IBM PC/XT/AT's, and costs only $195.00.

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IBM PC ☐ 256 KB req. ☐ Copies sold: 810 since 1985 ☐ $395

MEF ENVIRONMENTAL, INC.
SEE AD ON PAGE 379

☐ I/O PRO
Programming support for interactive screen development with library of assembly subroutines to augment FORTRAN, Pascal and C compilers. Compatible with EGA, Hercules and CGA cards.
IBM PC ☐ 192 KB req. ☐ Copies sold: 76 since 1985 ☐ $450

☐ No Limit
Aids development of interactive FORTRAN or Pascal systems. Handles extensive I/O. Includes graphics, strings, screen control and communications. Compatible with EGA, Hercules and CGA cards.
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(division of BCC, Inc.)

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IBM PC

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ASCII and keyboard key translator. User can redefine any key on keyboard to represent up to 84 other keys, combination of keys or complete commands.
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☐ MSBChart
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MICRO ASSOCIATES, INC.

☐ MICA/AM
Password protection for hard disk systems. ID number and password to each user. Read only, no access, write and total access levels. Menu for MICA programs.
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MICRO DATA BASE SYSTEMS, INC.

☐ K-C
Supports C programs by adding KnowledgeMan/2 functions such as record creation and locating, data retrieval and modification and record deletion.
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MICRO FOCUS, INC.

☐ Animator
Follows program logic at source code level. Debugging commands allow programmer to interrogate data values, alter flow or provide instant replay.
IBM PC, AT, RT, 3270-PC ☐ 64-256 KB req. ☐ Copies sold: 5,000 since 1982

☐ VS COBOL - Workbench
Integrated COBOL programming environment for the development of mainframe COBOL programs on IBM PC workstations. Includes COBOL source code editor, interactive syntax checker, compiler, screen printer and animated source code analysis.
IBM PC, XT, AT, Portable PC, 3270-PC/G, GX ☐ 256 KB req. ☐ Introduced: 1985

MICRO PRISM

☐ Strokesaver
Keyboard buffering and editing utilities. Allows retention and scanning of previous commands input.
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MICROHELP, INC.

☐ Inside Track
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☐ Mach 2
BASIC and Assembly subroutine library. Calls utilize same syntax, whether compiled or interpreted. Modifiable shell program usable as template. Includes window and memory managers. Saves data arrays beyond 64KB. Sorts string arrays.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $75

☐ Peeks 'n Pokes
Illustrates peek, poke, inp, out and DOS/BIOS function calls.
IBM PC, XT, AT ☐ 48 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $33

MICRORIM

☐ R:base Program Interface
Provides Pascal and FORTRAN programs access to R:base Series 4000 data bases.
IBM PC

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ Microsoft Mouse
Mouse pointing device OS.
IBM PC ☐ 64 KB req.

MICROSTAR SOFTWARE, LTD.

☐ Encryption Library
Library of routines for ANSI DEA/FILPS-DES encryption. Four modes of operation available in object or source code format. Includes host and terminal modes.
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☐ MVDI-T Development Toolkit
Programming tools using NAPLPS virtual device. Exec programs, language bindings, communications, device drivers and testing utilities. Designed for graphics developers. Provides text support bridge between application and video hardware. Resolution independent with up to 16,384 x 16,384 picture elements.
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☐ CommandPoint
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☐ HighPoint
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IBM PC ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $1,375

☐ HighPoint GX
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IBM PC ☐ Cost: $2,795

☐ KeyPoint
On-screen keyboard that replaces hardware keyboard. Toggles between character sets among alphanumerics, scientific characters and graphics. Requires Command*Point.
IBM PC ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $250

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SEE AD ON COVER 3

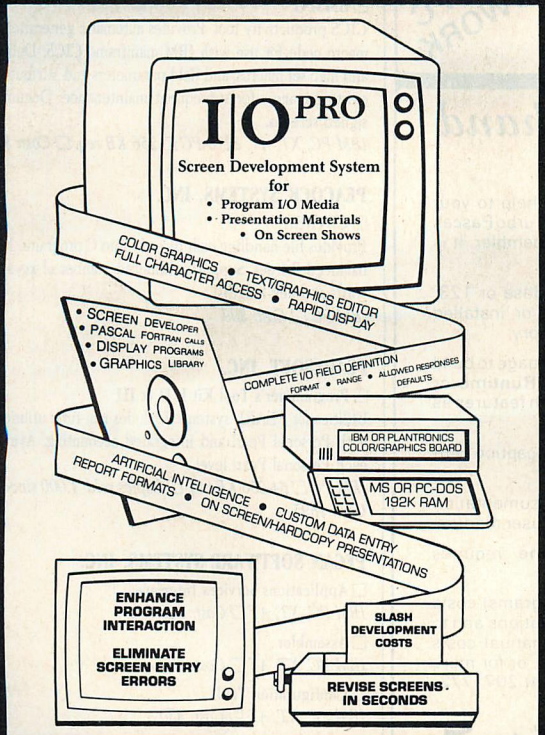
☐ FOR-BAS
Allows MS FORTRAN programs to call IBM BASIC Compiler library and MicroWay-written screen primitives. Includes circle, line, pset, preset, random number generator, screen commands and cursor commands. Requires IBM BASIC Compiler and MS FORTRAN.
IBM PC, XT, AT

☐ OBJ-ASM
Multipass object module translator and disassembler. Builds assembly language listing that includes data and code segments, and assume statements. Contains same symbolic information as source object module, including labeled names of all public entries and names of external references.
IBM PC ☐ 128 KB req. ☐ Copies sold: 575 since 1984 ☐ Cost: $200

☐ 87FFT; FFT-2
Performs forward and inverse FFTs on real and complex arrays. Allows single and double precision data types. Performs convolutions, auto correlations, hamming, complex vector multiplication, and complex to radial conversions. 87FFT-2 performs 2D FFTs. Callable from MS FORTRAN, 87BASIC/INLINE, IBM or MS Assembler, Turbo Pascal or RM FORTRAN.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 375 since 1984 ☐ Cost: $200

☐ 87Macro/Debug
Software development for 8087. Converts 8087 opcodes and operands into 8088 escape codes and source code for library of 8087 macros. Object module performs extensions as transcendentals, trigonometrics, hyperbolic functions and number conversions. Requires IBM MACRO Assembler.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,275 since 1982

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Features floating point, including transcendental functions, complex numbers, rectangular to polar coordinate conversion, cross-reference program and turtle graphics implementation.
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☐ CBC Manager I

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☐ CBC Manager II

Allows C-BASIC programmers to use additional memory. Locates functions in separate code segments and calls from there. Calls routines written in other languages.
IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1985 ☐ Cost: $300-$400

☐ CBC Tools

Function library for C-BASIC compiler. Quicksorts, BDOS interface, dictionary interface, bit manipulation, radix conversion, string filters/handling, tracer and profiler.
IBM PC ☐ 32 KB req. ☐ Copies sold: 250 since 1984 ☐ Cost: $175

☐ CBC XREF

Cross-reference utility for Digital Research's C-BASIC compiler. Contains options for configuring and sorting output. Includes local variables and labels.
IBM PC ☐ 64 KB req. ☐ Copies sold: 120 since 1985 ☐ Cost: $80

☐ MB+ Tools

Over 100 functions for Pascal MT Plus. Program profiler, radix conversion, directory access and string manipulation.
IBM PC ☐ Copies sold: 60 since 1985 ☐ Cost: $175

☐ MBPASLIB

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HELP/Environment. PC-DOS 2.0 or greater is required. **HELP/Runtime** requires approximately 9K for code and buffers for full size help screens.

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☐ BASIC Cross Reference Facility

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NIKOS CORP.

☐ CASM-Compiling Assembler

Macro assembler for 8086, 68K and 32032. Creates language compilers. Uses 8 or more macro statements per language statement. Built-in expression parsing. Block-structured environment.
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O.E.S. SYSTEMS

☐ Hammer Library

Programming utility for C. Provides library of 150 routines including BIOS access, pattern matching, date conversions, string handling, data entry and screen management. Includes source file archiver. Supports Microsoft C, CI-C86, Mark Williams C86, DeSmet C and Lattice C.
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☐ Pro*Ada

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IBM PC

PARAGON COURSEWARE

☐ Super Tools

Tools for Turbo Pascal on IBM PC. Windowing, string formula evaluation and system checking and controlling. Unlimited windows, cursor save and jump, window overlay and recall. Accesses time and date, disk types and I/O information.
IBM PC ☐ 321 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $45-$75

PC PROGRESS

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CICS productivity tool. Provides automatic generation of BMS macro code for use with IBM mainframe CICS. Defines map and map set macros, and field parameters and attributes. Loads existing macros for subsequent maintenance. Documents designed screens.
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☐ CBTREE

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PECAN SOFTWARE SYSTEMS, INC.

☐ Applications Services Interface
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IBM PC, XT, AT ☐ Cost: $50

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☐ MICRO/SPF
Reviewed Mar 1986 p. 113.
Programming tool functionally equivalent to standard SPF. Includes full screen editor, split-screen format, browse option, user-defined function keys and master catalog access.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 3,000 since 1983 ☐ Cost: $175

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☐ PASM86
Assembles MASM files. Supports 8086/88, 8087, 80186, and 80286 op codes. Symbols can be defined on the command line and are allowed within procedures. Generates symbol tables and listings.
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Linkage editor. Accepts object files conforming to Intel or Microsoft format and outputs executable program files.
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Tracks changes to files that make up programs. Reconstructs the program using updated modules and files. Constructs files describing dependent files and their sequence of operations.
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☐ Pre-C
Cross checks source files and libraries, reporting incorrect, obsolete and non-portable C usages. Detects unreachable code, unused variables, misdirected pointers and mismatched argument data types. Provides warning reports directed to disk, console or printer.
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☐ PLIB86
Handles Intel or Microsoft format libraries. Builds libraries, adds/deletes modules and produces cross-reference listing.
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☐ Super Utilities
Provides over 100 programs and subroutines for PCDOS including macros, seektext/file, file recovery, backup, file encryption and decryption, BASIC sort, screen save, password protection and DOS menu creation. Saves 3D graphs to disk.
IBM PC, PCjr, XT, AT ☐ 128 KB req. ☐ Copies sold: 856 since 1984 ☐ Cost: $72

POLYGON SOFTWARE CORP.

☐ EasyPath
Reviewed Apr 1985 p. 138.
Permits programs and commands to find files in subdirectories other than current one. Search paths specified separately for particular files or groups of files using global filename characters. Predefined specifications for most major programs. Protects subdirectories against deletion or creation.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $100

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☐ KEYWARE
Programming environment for defining touch keys on Polytel's KEYPORT 300 touchpad. Allows for KEYPORT macros to pause for user input. Custom help windows. Edits previously saved key definitions off line.
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POLYTRON CORP.
SEE AD ON PAGES 348/382

☐ C Beautifier
Reformats copy of C program input file, indenting each line to display structure of program. Utilizes K&R standard. Adjusts tab stop spacing to fit display or printed page.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $49

☐ C Library
Fifty high performance functions for Lattice C Compiler.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $99

☐ C Library 1
Supports 47 general purpose and 29 I/O routines. Enhances and adds Lattice C functions. LAN-compatible.
IBM PC, XT, AT ☐ Copies sold: 1,000 ☐ Cost: $99

☐ PolyCrossRef
Multi-lingual cross reference generator. Cross references variables, constants, functions, procedures and subroutines. Cross references source files, even if more than one source language is used in same program. Report generation.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $49-$219

☐ PolyFORTRAN Tools
Cross-reference listings, cleanup reformats, extract subroutines, functions, block data and screen position/color control. LAN-compatible.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $179

☐ PolyLibrarian
Reviewed Oct 1984 p. 80.
Creates/manages libraries of object code modules. Time stamping modules, 3 operating modes and searches for public/external names. Supports Microsoft format. Enhanced version supports Microsoft and Intel format libraries. LAN-compatible.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 4,000 since 1983 ☐ Cost: $99-$149

☐ PolyMake
Program builder and maintenance tool. Builds latest revision of software system with single command. Uses UNIX to make syntax. Batch file output mode. LAN-compatible.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $99

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Creates optimal memory overlay structures while building batch files to automatically drive overlay linker. Creates overlay structures for any modular language including Pascal, C, FORTRAN and Ada.
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IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 350 since 1985 ☐ Cost: $395

☐ Version Control System
Source code revision management. Maintains chronological history of source-file changes. Reconstructs prior revisions of any module, defines version of specified revisions of module and supports branching from previous revisions. Multiple copy and network licenses are available.
IBM PC

PRO/AM SOFTWARE
SEE AD ON PAGE 383

☐ DISnDATa
Disassembles .EXE and .COM files. Performs recursive flow- and segment register data-trace. Outputs appropriate segment and PROC pseudo-ops at proper places within assembly language output. Outputs data areas using most appropriate form of DB or DW. Labels code and data.
IBM PC, XT ☐ Cost: $145

QCAD SYSTEMS, INC.

☐ QPARSER
Translator writing system for language development, data translation and creation of compilers or interpreters. Generates source code.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 150 since 1984 ☐ Cost: $400

☐ QTOOLS
UNIX-style toolbox on MSDOS. File listing, pattern search, substitution, translation and file maintenance. Provides format and description of commands. Creates personalized filters.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $50

QUALITAS, INC.

☐ TallScreen
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $50

QUARTERDECK OFFICE SYSTEMS

☐ DESQVIEW
Reviewed Dec 1985 p. 52.
Memory-resident, multi-tasking integrator with bit-mapped graphics support for spreadsheet users. Supports mouse systems. Allows the use of batch files, supports virtual memory, and transfers data without requiring vendor-supplied files. Includes autodial.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $100

QUE CORP.
(division of Macmillan, Inc.)

☐ C Programmer's Library
Includes procedure for recursion, link lists, binary trees, sorting algorithms and ISAM fuction.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $125

QUILT COMPUTING

☐ QMAKE
For rebuilding systems. Compiles only routines which have been changed. Analyzes dependencies before rebuilding any part of system. Supports macros, multiple entry points and most languages.
IBM PC ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $99

☐ Software Revision Management System
Stores all versions of source/documentation in a single ASCII file. Allows retrieval of any version or source and application of changes, while recording when, why and where changes were made with no duplication of common code.
IBM PC ☐ 128 KB req. ☐ Copies sold: 250 since 1985 ☐ Cost: $125

QUINN-CURTIS

☐ IPC-TP-017
DOS/BIOS tools for Turbo Pascal. Includes 170 procedures/functions. Provides equipment/memory size/DOS version number determination. Reads/writes/formats disks. Creates directories from within program. Sets/reads system time/date. Gets/sets interrupt vectors. Manages memory. Allows background printing.
IBM PC, XT, AT ☐ Cost: $75

RAYTRONICS

☐ C-CHAIN
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- Chooses data lengths (DB or DW) to match byte or word data references in *code*, allowing most memory references to be free of BYTE or WORD length operators.
- Outputs large, all-zero areas with "DB/DW nn DUP (?)" to prevent excessive output from large buffers, uninitialized arrays, etc.
- Fully labels both code and data. Labels are of the form 'Hxxxxx', where 'xxxxx' is the hex offset of labelled item from the beginning of the program.
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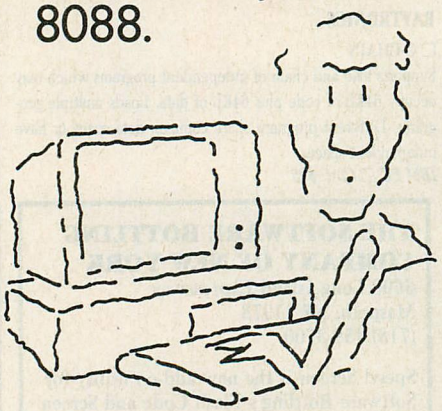
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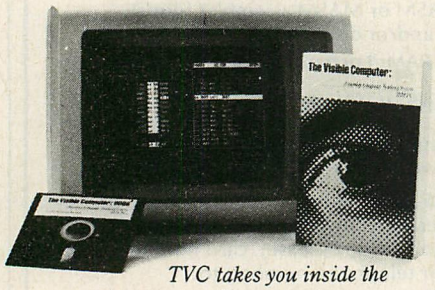
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☐ X-TOOLS
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IBM PC ☐ 256 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $950

RICKERDATA

☐ Keyswap 3.0
Reviewed Oct 1985 p. 131.
IBM PC keyboard enhancer. On-line macro editor, macro listings and design menus and windows. Fixed/variable field input and time delay on macro playback.
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IBM PC ☐ Copies sold: 50 since 1982 ☐ Cost: $175-$350

SHERBORN SOFTWARE SYSTEMS

☐ /N
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IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 43 since 1983 ☐ Cost: $15

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Programmable Controls Division

☐ Documenter
Enters text onto user program, cross-references program elements and prints hard copy. Program element labels, network text and function block descriptions for each network.
IBM PC, XT, Portable PC

☐ Ladpro
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IBM PC, XT, Portable PC

☐ Supervisor
Aids in start-up and debugging of control programs. Enables or disables various programs selectively.
IBM PC, XT, Portable PC

DAVID SMITH SOFTWARE

☐ Code Sifter
Performance execution profiler locates time-consuming code sections when tuning. Statistical data indicates percentage of run time spent in each of 32 areas of memory. Defines areas. Reruns programs in succession. Output contains symbols from user's link map.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 75 since 1985 ☐ Cost: $119

SOFTEXT PUBLISHING CORP.

☐ File XFER
Reads/transfers data from file formats including dBASE II, Multiplan/SYLK, VisiCalc/Lotus DIF, minimal BASIC, delimited and fixed-length file with field specifiers.
IBM PC, XT ☐ 170 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $40

☐ MT+ Tools for Pascal MT+86
Returns list of file names from disk, lists disk space, clears screen, dispositions cursor, sets blink, high intensity, renames file, returns logged disk and charges directory path/disk drive.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 40 since 1984 ☐ Cost: $40

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☐ Snake
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IBM PC, XT, AT ☐ Cost: $59

SOFTWARE ASSOCIATES

☐ BetterTOOLS
Application development tools for BetterBASIC programming language. Adds over 150 statements. Sorts data using Quicksort or Shellsort algorithms. Encrypts/decodes string data or entire files. Displays directories. Loads/accesses directories in memory. Manipulates file attributes and date/time stamps. Copies files.
IBM PC ☐ 256 KB req. ☐ Cost: $95

SOFTWARE DEVELOPMENT FACTORY

☐ CrossRefC
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IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 130 since 1983 ☐ Cost: $99

SOFTWARE GARDEN, INC.

SEE AD ON PAGE 385

☐ Dan BricKLin's Demo Program
Reviewed Mar 1986 p. 29.
Generates screen images. Features slide show-type of prototyping to produce simulations. Supports monochrome, color/graphics and enhanced graphics adaptors (text mode only).
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $75

SOFTWARE INNOVATIONS, INC. (CA)

☐ SOURCE-IT
Cross-reference utility and documentation aid for use with Microsoft's BASIC Interpreter and Compiler. Reads an ASCII BASIC program and generates a detailed formatted listing for program modifications and walk-throughs or debugging. Not copy protected.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 32 since 1983 ☐ Cost: $90

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- Run command switches from slide to slide under automatic control
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  - ☐ Wait for key or optional timeout
  - ☐ Display different slide next depending *upon keystroke*
  - ☐ Produce tones
  - ☐ Switch to another set of slides in another file
- Runtime-only version of program included, along with license to make up to 50 copies (see License for details).
- Additional volume runtime licenses available.
- Requires 256k IBM PC/compatible, DOS 2.0 or later. Supports Monochrome, Color/graphics, and EGA Adaptors (text mode only).

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—PC Tech Journal, 3/86

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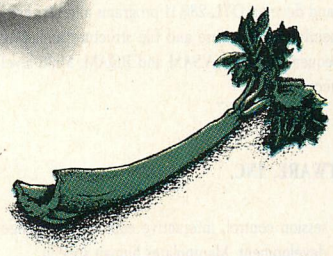
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☐ See-II

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IBM PC

SPS SOFTWARE PRODUCTS & SERVICES, INC.

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☐ PC-FORTRAN Tools

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IBM PC, XT ☐ Cost: $179

STSC, INC.

☐ ALP*Plus PC Tools, Volume 2

APL programming utilities. Supports file documentation and editing, screen editing and exception handling.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $85

☐ APL*Plus/PC Tools, Volume 1

Screen management, PC-to-host data transfer, report formatting and software maintenance utilities.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,200 since 1984 ☐ Cost: $295

SUNNY HILL SOFTWARE

SEE AD ON PAGE 351

☐ Turbo Professional

Includes routines for windowing, RAM resident, pop-up programs, DOS memory allocation, absolute sector I/O, directory searches, background printing and resident module interfacing. Includes over 120 routines.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $70

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Radio Shack no. 26-6450. Assembly language mnemonics for I/O control. Requires Radio Shack's XENIX Development System.
☐ Cost: $399

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(subsidiary of York Research Corp.)

☐ XTU

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TECHNOLOGICAL SYSTEMS GROUP, INC.

☐ FTNLIB

Collection of FORTRAN callable utilities allowing programmer to access keyboard, speaker and display of PC. Provides basic graphics functions and printer output for CGA and Hercules card. Provides cross-hair for graphical input.
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THEOS SOFTWARE CORP.

☐ Toolkit

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IBM XT, AT ☐ Cost: $150-$300

TOOL MASTER, LTD.

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Installs PC Touch driver. Provides 1,000 by 1,000 point touch screen calibration, a keyboard utility, and a touch screen demonstration using black jacks. Compatible with most Microsoft mouse-compatible programs.
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☐ PC Touch Option A

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☐ PC Touch Option B

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☐ Program Writing Program

A text and linker program for writing and linking multi-color touch screens for any application.
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IBM PC

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☐ BASIC Aids Graduate

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IBM PC ☐ 160 KB req. ☐ Introduced: 1984 ☐ Cost: $79

☐ BASIC Aids Professional

Superset of BASIC Aids Graduate program. Floats BASIC statements between programs. Joins programs or libraries to create new programs or libraries. Resolves numbering conflicts while inserting new modules into program.
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☐ Utilities

Nine utilities for Turbo Pascal programmers. Pretty printer, Pascal structure analyzer, execution profiler, execution timer, pattern replacer, difference finder, command repeater and file finder.
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VANCE INFO SYSTEMS

☐ C*lib (C Function Library)
Reviewed Jul 1985 p. 135.
UNIX-compatible, screen/window processing library; buffered, interrupt-driven, async communications library; string manipulation; and 8087/Microsoft floating point conversion. Versions are available for memory models of Lattice, Microsoft and Desmet C compilers. Supports 200 routines.
IBM PC ☐ 128 KB req. ☐ Copies sold: 60 since 1985 ☐ Cost: $195

VERDIX CORP.

☐ VADS (Verdix Ada Development System)
Compliance with ANSI/MIL-STD-1815A. Compiler, symbolic debugger, library utilities, runtime system and development tools. Maximizes rehostability and retargetability. Interfaces with existing environment. Develops, codes, compiles, debugs, tests and controls embedded microprocessors from single system linked to host computer.
IBM PC, XT, AT ☐ 1,000 KB req. ☐ Copies sold: 100 since 1986 ☐ Cost: $7,500

VICTOR TECHNOLOGIES, INC.

☐ Application Programmer's II
Organizes key files in B-Trees. Creates character sets, defines functions of individual keys and configures system characteristics. Includes sorting utility, full-screen expandable editor, large files and overlays. Modifies library files.
IBM PC ☐ 128 KB req. ☐ Cost: $295

☐ Systems Programmer's II
Provides macro assembly, conditional assembly and assembled directives. Cross-reference utility. Helps debug Assembly language programs. Links separately produced modules of 8086-88 object code. Creates and modifies library files. Provides controlled testing environment for binary and executable object files.
IBM PC ☐ 128 KB req. ☐ Cost: $295

VOICE OPERATED COMPUTER SYSTEMS (VOCS)

☐ MOPI
Universal assembler. Generates absolute/relocatable code with no linking/loader required.
IBM PC ☐ 56 KB req. ☐ Copies sold: 30 since 1982 ☐ Cost: $195

WANG LABORATORIES, INC.

☐ PC C Developers Toolkit
Consists of a Wang 8086C Compiler, program statistics, C code program, C listing utility and 8087 Floating Point Emulation.
IBM PC ☐ Cost: $500

☐ PC Micro Focus Animator
IBM PC ☐ Cost: $500

☐ PC 2200 Support Utilities
IBM PC ☐ Cost: $125

WATCOM PRODUCTS, INC.

☐ WSL Development System
Screen editor, 8086 WSL compiler, 8086 assembly, 8086 linker and WSL run-time library.
IBM PC ☐ Cost: $450

WENDIN, INC.

☐ Operating System Toolbox
Software construction set used to build multi-tasking, multi-user OSs for PCs. Supports windows, mouse and pull-down menus. Performs multi-user scheduling, paged memory management and concurrent I/O.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $99

WESTERN WARES

☐ ZAS - Z-8000 and Z-8 Development Package
Macro assembler, linker, loading utilities and run-time monitor. Conditional assembly, 36 directives, full macro facilities. Builds overlay systems.
IBM PC ☐ 48 KB req. ☐ Copies sold: 250 since 1980 ☐ Cost: $195-$395

WHITE HERON CORP.

☐ CMP
Compares ASCII files and reports changes, moved blocks of lines, and changes within moved blocks. Optionally skips blanks and tabs or sends report to file. Allows 20,000 lines per file.
IBM PC, XT ☐ 52 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $89

YES SOFTWARE, INC.

☐ RE/Call
Reviewed Oct 1985 p. 131.
Macro processor with pop-up menus. Provides interactive correction and editing, single-step mode and macro zoom feature. Expands or shrinks menus as items are added or deleted.
IBM PC, XT, AT ☐ 24 KB req. ☐ Cost: $90

ZEDUCORP

☐ Dezign-PC
Structured program designer based on Jackson Design Method (JSP). Generates structured source code for programs written in Ada, C, Pascal, dBASE II, dBASE III, and PL/I.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $200

ZORTEC, INC.

☐ System Z
Software development and application maintenance. Contains data base manager, fourth generation programming language, text editor and intelligent compiler, runtime driver and real-time debugger and self-teaching program generator.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 200 since 1983

REPORT GENERATORS

AMERICAN BUSINESS SYSTEMS, INC.

☐ BACS Bridge
Accesses up to five BACS data files from other BACS systems. Bridges report data to Lotus 1-2-3.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984

AMERICAN INFORMATION SYSTEMS, INC.

☐ COBOLCRAFT RediWrite Report Writer and Data Bridge
User-designed management reports. Bridges data to word processing, spreadsheet, data base and graphics packages.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $695

ANALYTX INTERNATIONAL, INC.

☐ FormWorx
Forms design. Completes preprinted forms. Full-screen editing allows what you see is what you get. Various type sizes and line/box styles available. Accommodates 11" x 14" printout. Built-in macro capability. Provides graphics symbols. Supports most printers including LaserJet.
IBM PC, XT, AT ☐ 384 KB req. ☐ Introduced: 1986 ☐ Cost:

APPLICATIONS SYSTEMS CORP.

☐ PRO-IV Report Writer
Generates ad-hoc end-user reports from any PRO-IV files or data bases. Performs vertical totals through use of control breaks by numerical criteria. Accesses multiple files. Executable in run-time or development PRO-IV.
IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $300-$10,000

APPLIED MIND SYSTEMS, INC.

☐ APS
Aids in filling out forms and tracking flow. Defines set of forms. Inputs customer information once for required forms. Prints information on preprinted forms. Tracks which forms require response and when. Performs APR and other calculations required for form completion.
IBM PC ☐ 256 KB req. ☐ Copies sold: 2 since 1986

BLOC DEVELOPMENT CORP.

☐ FormTool
Forms editor. Handles line drawing, editing, boldfacing, justification, block operations and variable form sizes. Produces prototype. Stores forms as standard ASCII files. Produces time sheets, expense reports, activity logs and productivity forms. Features windowing, word-wrap, reformatting, justifying and centering.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $95

BOS NATIONAL, INC.

☐ AutoClerk
Program generator. Produces reports and data entry/update modules. Assists in development of commercial applications. Handles routine programming tasks. Creates any file, screen format or print layout. Sorts, selects, amends, updates and calculates. Multi-user.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1978 ☐ Cost: $550

☐ AutoClerk (RT)
Run time version of BOS/AutoClerk.
IBM PC, XT, AT ☐ Cost: $100

BYTEL CORP.

Software Development Division
SEE AD ON PAGE 364

☐ Quepro
Forms and lists methods. Calculates data elements including addition, subtraction, multiplication, division and ratio percentages. List method sorts records in ascending or descending order and provides totals on numeric fields.
IBM PC ☐ 128 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $595

CONCENTRIC DATA SYSTEMS, INC.

SEE AD ON PAGE 19

☐ dB Report Writer
Prepares presentation reports from dBASE file and in any format. English query and Lotus 1-2-3-like commands.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $125

CONCEPT OMEGA CORP.

☐ ConceptR
Creates financial reports, order forms, payroll checks and ad hoc reports. Permits placement of column headings, footings, boldfacing, underscoring and word processing text into any report. Executes control and page breaks, sorts any field and retrieves certain records or range of records.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $795

DATA LAW CO. (DLC)

☐ QPLEX-IV
Designed to be used in conjunction with Datalaw/PC. Produces custom management reports. Adds, subtracts, multiplies, divides and calculates percentages in creating special documents.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 500 since 1980 ☐ Cost: $695

DATAMATE CO.

☐ EnQuery

Stores 28 report formats. Enters report specifications in free format. Reads COBOL file FD. Nested and compound if statements. Internal variables. Supports 25 totals and subtotals per report and 599 variables names per file.

IBM PC ☐ 64 KB req. ☐ Copies sold: 500 since 1978

DCM DATA PRODUCTS

☐ Access

User can perform on-line query, format reports, transfer data to word processors/spreadsheets, catalog queries/reports, join files and define data file structure. Allows totals, subtotals, averages and level breaks in reports.

IBM PC, AT

FOGLE COMPUTING CORP.

☐ Universal Report Facility

Generates reports on stock paper, labels or screen. Variable column widths. Sorts report on any field, can be selective. Generates BASIC code.

IBM PC ☐ 128 KB req. ☐ Copies sold: 160 since 1982 ☐ Cost: $150

FOX & GELLER, INC.

☐ Quickreport

Combines up to 6 data base files into report. Reports include various types of calculations. Performs group breaks on up to 16 fields and selects data according to user-specific criteria.

IBM PC ☐ 256 KB req. ☐ Copies sold: 1984 ☐ Cost: $295

GENERAL DATA SYSTEMS, LTD.

☐ Dx Report Generator

Header and detail line controls, page number, date controls and editing, beginning and end of report and page, change in value of a data field, logical comparison of values of data fields or data field and literal.

IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ ADRS/PC (A Departmental Reporting System)

IBM no. 6428-092.

IBM PC

☐ Personal Decision Series - Reports + Edition

IBM no. 6410-937; 6466-984. Headings, footings and titles, numeric formats, four print sizes and four print colors, fixed text, constants and 200 variable fields. Application generator combines reports, screen design and file processing with user-written BASIC routines to generate programs.

IBM PC, XT, 3270-PC, Portable PC, XT/370, AT, PC Convertible ☐ 256-320 KB req. ☐ Cost: $165

☐ Reporting Assistant

Set of format, part, calculate and print commands produce reports based on output from IBM Filing Assistant program.

IBM PC, XT, Portable PC, PCjr ☐ 128 KB req. ☐ Cost: $145

☐ XRW (Extended Report Writer)

IBM no. 6187-246. Extends report writing capabilities of R:base System 4000.

IBM PC, XT, 3270-PC ☐ Cost: $150

INFO-PROS, INC.

☐ Info-Reporter

Printer spacing chart shown on screen allowing positioning of fields and definition of contents as required. Multiple input files referenced for complex reports. Interfaces with four BASIC files.

IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $125

INSPIRATION SYSTEMS, INC.

☐ Prevail - Report Writer

Fourth generation report generation. Report formats include multiple summaries, heading, footing, and breaks. Retains report templates and generated code. Couples with Prevail, ADL and DBMS. Interfaces with other Prevail modules.

IBM PC ☐ 2,000 KB req. ☐ Copies sold: 100 since 1984

INTELLUTION, INC.

☐ On-Line Report Package

On-line snapshot reports for Intellution's The Fix. Details off-normal, off-scan and off-alarm points.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $150

MACOLA, INC.

☐ Report Writer

Step-by-step prompting, user-specified field formats and headings per column. Designates report breaks and subtotals with labels.

IBM PC, AT

MARTIN MARIETTA DATA SYSTEMS

(operating company of Martin Marietta Corp.)

☐ PC/Reporter

IBM PC version of RAMIS II fourth generation language reporter. Generates reports using any DIF, Fixed, sequential or comma-delimited ASCII file. Multi-window and pop-up help text. dBASE III compatible.

IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $350

☐ UNIX/Reporter

UNIX version of RAMIS II fourth generation language reporter. Generates reports from flat files. Window capabilities and menu-assisted or syntax reporting.

IBM AT ☐ Introduced: 1985 ☐ Cost: $995

MCDONNELL DOUGLAS INFORMATION SYSTEMS GROUP

(component of McDonnell Douglas Corp.)

☐ MRCS (Multiple Report Creation System)

Produces 32,767 reports and/or output files with single pass. Includes interpretive operation and /or execution of machine efficient precompiled load modules, free-format report generation command language and interactive select-list driven report definition. Transportable between IBM OS/VS and DOS/VSE.

IBM PC ☐ 140 KB req. ☐ Copies sold: 200 since 1974 ☐ Cost: $13,200-$24,000

MICRO DATA BASE SYSTEMS, INC.

☐ K-Report

For KnowledgeMan/2. Designs templates for reports. Includes headers, footers and detail. Stores templates for later use. Generates custom reports.

IBM PC ☐ 384 KB req. ☐ Introduced: 1985 ☐ Cost: $225-$850

MICRORIM

☐ R:base Extended Report Writer

Retrieves data from multiple relations, performs calculations based on ranges of values and causes line and page breaks to occur when a specified field changes in value.

IBM PC ☐ 256 KB req.

MICROTEK COMPUTER SERVICES

☐ MiniBase II

Library capabilities, forms design and on-line help. Supports 2,000 files.

IBM PC ☐ 128 KB req. ☐ Cost: $60

MMS INTERNATIONAL

☐ MCS-3 Report Writer

COBOL program generator that allows user to design reports using up to five data files with 20 column possibility. For use with MCS-3 and MBSI RealWorld. Provides interface between these packages and data base programs, spreadsheets and word processing packages.

IBM PC ☐ 64 KB req. ☐ Copies sold: 80 since 1984 ☐ Cost: $950

ORACLE CORP.

☐ SQL*RPT

Report writer and formatter for use with SQL/RT. Formats documents containing data base information.

IBM RT PC ☐ Introduced: 1986 ☐ Cost: $600

PERSONAL SOFTWARE CO.

☐ Report Writer

Specifies subtotals and grand totals where desired. Produces percentages, variances and other calculations using up to 30 data elements per report line in sequential REPTDATA.XXX DIF file. Allows global changes to common header information.

IBM PC ☐ 256 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $35

POLARIS SOFTWARE

☐ Forms

Prints/designs forms with word processing program. Merges data from other programs. Stores overlay macros in LaserJet Plus. Includes formatting commands. Updates forms. Adjusts vertical line and character spacing. Merges symbols/charts on forms. Numbers forms. Prints time/date.

IBM PC, XT, AT ☐ 196 KB req. ☐ Cost: $149

POLYMATHIC COMPUTER CORP.

☐ Report Generator

IBM PC

POWER UP

☐ Letters On-Line

Provides over 800 pre-written letters and forms that can be read, modified and printed by word processor. Areas covered include accounting and collection, employers and employees, general business, good will and sales, legal affairs, shipping and ordering, personal affairs, schools, charities and organizations. On-line index.

IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $60

RVA TECHNOLOGY, INC.

☐ Flexgen - Report Program Generator

Ineludes data dictionary maintenance programs and report program coder. User designs report layout and enters specifications into report format file. Allows changes to format file and additions of source statements for special processing.

IBM PC ☐ 64 KB req.

CONCENTRIC DATA SYSTEMS, INC.
18 Lyman Street, PO Box 4063
Westboro, MA 01581-4063
(617) 366-1122

R&R Relational Report Writer for dBASE III and dBASE III PLUS. Prepare reports faster and easier than with dBASE, and without programming. Relate and report from up to 10 files at once. Free-form layout of text and fields, Calculated fields, Grouping. Totals. Query. Automatic TRIM. Word-wrap character and memo fields. Run stand-alone or from dBASE programs.

Screen-Ace® Form Master

To Let You Master Forms

How often have you wanted to create a user interface as good or better than those found in the most successful software products? It's tough to develop one from scratch so you turn to one of the helpful software packages – only to find that they're too helpful, leaving little flexibility for your own creative impulses. Until now.

The Screen-Ace Form Master is designed to create and maintain forms, tables, text screens and menus. It gives you the ability to deal with fields instead of characters, with data management instead of forms management. The result is more time spent on the application because you need spend less time developing a more powerful, simpler use interface.

Form Master permits flexible function key definition, forms larger than the physical screen, toggling field colors and attributes at run time, and allows you to switch between screens without losing any of the data they contain. It's compatible with DESQview and TopView – two popular window management programs. And it's **FAST!**

Form Master requires an IBM PC, XT, AT, or any fully compatible computer with at least 256K and DOS 2.0 or above. The APL version supports STSC's APL*PLUS/PC System (version 4.0 or above). The C version supports Lattice C (version 2.03 or above) and Microsoft C (version 3.00 or above). Please specify language, vendor, and version number when ordering.

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CIRCLE NO. 308 ON READERS SERVICE CARD

SNOW SOFTWARE CORP.

☐ qPLEX IV Report Writer
All-language report writer. Selects/sorts existing data files. Produces reports, forms, ad hoc queries, and labels. Exports reports to spreadsheets and word processors. Reads BASIC, COBOL, ASCII, C, dBase II and III, and Informix.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 3,000 since 1984

SOFTCRAFT, INC. (TX)

☐ Rtrieve
Generates customized reports without writing a program. Sets page and form dimensions and defines headers and footers and variable length forms. Windows define and generate each form.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $85

SOFTSTAR INTERNATIONAL, INC.

☐ Report MANager
Horizontal/vertical report control. Handles page numbering, page titling, headers, sub/grand totals of numeric and dollar fields, and dynamic percentage of lines. Saves and modifies report format under user-assigned names. Includes printer manager.
IBM PC ☐ 256 KB req. ☐ Cost: $79

SOFTSYNC, INC.

☐ Reports Plus
Query system and report generator. Searches for information in data files from spreadsheets or data bases. Calculates results not in original files. Presents results in user-defined reports or formats. Links up to 10 files allowing mixed formats.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $99

TIMBERLINE SOFTWARE CORP.

☐ TS-Report I and II
Creates custom reports containing only information requested. Included in Medallion Collection. Generates reports from Medallion data file.
IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $190-$990

TLB, INC.

☐ Solomon III Reporter
Generates reports, tables and flat files. Selective retrieval, wildcard string matching, arithmetic expressions, character class matching, virtual tabular and user views, virtual fields, sorted output, control breaks with statistics, value labels, query nesting, environmental control options and parameterized macros.
IBM PC, XT, AT, RT PC/AIX ☐ 320 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $595

TYLOG SYSTEMS, INC.

☐ dB DOOR
Data from two data bases may appear on report. Ten accumulators available for totaling, subtotaling, averaging and counting.
IBM PC ☐ Copies sold: 500 since 1983 ☐ Cost: $149

YORK ST. SOFTWARE

Datamaster Corporation Ltd.

☐ Query
Report generator. Modular component of York St. Software integrated accounting system. Networking capabilities.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1979

SCREEN FORMATTING TOOLS

ACE SOFTWARE PRODUCTS, INC.

SEE AD ON PAGE 390

☐ Screen-Ace
Creates and maintains forms, tables, text screens and menus. Supports forms larger than physical screen, toggling field colors and attributes at run time. Switches between screens. Interfaces STSC's APL*PLUS/PC system, Lattice C, Microsoft C, DESQview and TopView.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $195

ADVANCED COLOR TECHNOLOGY, INC.

☐ ACT.COM
Screen dump utility. Reformats colored screen data and outputs to either ACT I or ACT II/Chromajet printer. Allows user control of number of copies, black/white reversal and bi-directional printing. Requires system using color graphics with monitor.
IBM PC ☐ 64 KB req. ☐ Cost: $70

☐ ACT.TXT
Screen dump utility. Full screen reformatting and output to ACT I or II printer. Requires Color Graphics Adaptor and Color Monitor.
IBM PC ☐ Cost: $70

ARITY CORP.

☐ Screen Design Toolkit
Includes text screen manipulation predicates. Contains object code. Designs and lays out screens. Builds menus and windows. Requires Arity/Prolog Compiler or Intepreter.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $50

ARTS COMPUTER PRODUCTS, INC.

☐ Expand-a-View
Enlarges and colors standard letters. Characters spread apart to reduce blur. Contains console device driver for operation with line-oriented packages. Maintains text buffer. Designed for computers that cannot contain separate monochrome and color graphics controllers.
IBM PC, XT, AT ☐ 64 KB req. ☐ Cost: $495

☐ PC Lens
Magnifies characters. Uses colors for contrast.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 99 since 1984 ☐ Cost: $495

☐ PC Voice
Verbalizes and enhances the standard screen image. Follows the cursor and speaks in English words the information on the screen.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $495

BCS DATA SYSTEMS, INC.

☐ DScreen
Allows user to dump contents of screen to sequential file to be stored, edited or printed as needed. Prints data entry screens for inclusion in manuals. Dumps exact image of screen.
IBM PC ☐ Cost: $295

BLAISE COMPUTING, INC.

☐ View Manager
Screen formatting manager for IBM PC and Microsoft Pascal compilers. View/Screen, View/Document, Data Base Utilities and View/Library.
IBM PC, XT, AT ☐ Introduced: 1983 ☐ Cost: $275

CALIFORNIA SOFTWARE PRODUCTS, INC.

☐ Baby/38 SEU
Emulates S/38 source entry utility. Provides editing and RPG III syntax checking. Off-loads program writing and verification. Performs insert, move, copy and delete. Copies from one file to another. Backs up file in memory.
IBM PC ☐ 384 KB req. ☐ Copies sold: 50 since 1986 ☐ Cost: $1,500

CHARANDON COMPUTER SYSTEMS, INC.

☐ Realform
Interactive screen design and on-line forms editor. Supports numerous data field types. Transforms form definition file into COBOL data division copy file.
IBM PC, XT, AT ☐ Cost: $295

COMPUTER SYSTEMS CONSULTANTS

☐ Full Screen Forms Display
Screen generator for 6809. Supports any serial terminal with cursor control and memory-mapped video displays. Generates forms and data field definitions.
IBM PC ☐ 64 KB req. ☐ Copies sold: 50 since 1980 ☐ Cost: $60

DATA CONSULTING GROUP

☐ DATA*EASY PC Screens and Menus
Generates screen designs and BASIC code for data input. Creates BASIC menus. Fields can be specified as alpha, numeric, all capitals, first letter capitalized, integer, decimal or data type.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $48-$78

DATACOMP SYSTEMS, INC. (PA)

☐ Worksheet Layout System
C subroutine library. Provides user's application with spreadsheet-like features including virtual windowing, menus and data validation and display. Handles display formatting, input checking and screen scrolling. Includes simulator for checking screens prior to application development and debugging.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $1,000

DOMUS SOFTWARE, LTD.

☐ Print Screen
Prints text or graphics screens on dot matrix printer. Reverse video, high intensity, underlined, character set modification, vertical and horizontal orientation.
IBM PC ☐ 20 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $50-$60

DYNACOMP, INC.

☐ Dynamaster Database
Creates screen formats.
IBM PC ☐ Cost: $100

☐ Screen Sculptor
Designs and creates input screen programs.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Cost: $120

FLEXUS INTERNATIONAL CORP.

☐ Screenplay
Provides control over screen attributes, cursor, control keys and I/O fields. User can display pop-up panels for menus, help screens and multiple panels simultaneously. Defined panels compatible with Turbo Pascal, IBM/Microsoft Assembler, DeSmet C, Lattice C, IBM COBOL, Microsoft COBOL or Realia COBOL.
IBM PC ☐ 256 KB req.

FOGLE COMPUTING CORP.

☐ Screen Design Facility
Generates BASIC language code to handle screen displays and data entry. Displays protected mask and data is entered through alphanumeric or numeric windows. Insert, delete, erase-to-end-of-field, forward-tab and back-tab. Supports color monitor.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,200 since 1982 ☐ Cost: $150

FOOKS MATHEWSON CO.

☐ Lil' Jake
Full-screen editor. Productivity tool for data entry and modification of text files.
IBM PC ☐ Cost: $50

GENERAL DATA SYSTEMS, LTD.

☐ Dx Screen Generator
Non-procedural screen and menu generator. Defines menus as text and selection. Cursor control and function keys. Generates for CICS, PC or both.
IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1983

GRYPHON SYSTEMS

☐ PhosForm
Screen editor and set of screen input routines.

HARVARD SOFTWORKS

☐ EDPRO
Screen program editor. Ten search and replace buffers, ten block move buffers, insert, delete, change case, break line, edit template, and undo current line edit.
IBM PC, XT ☐ 128 KB req. ☐ Cost: $95

HUMAN COMPUTING RESOURCES CORP.

☐ HCR/Edit
Screen editor. Exact image of working file displayed on screen. Standard UNIX line editor can be used through window at bottom of screen. Designed for terminal with cursor addressing and high baud rate which scrolls up at bottom screen line.
IBM PC, AT, RT ☐ 128 KB req. ☐ Copies sold: 175 since 1982 ☐ Cost: $500 and up

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ 3270-PC Control Program
IBM no. 1837-434; 6217-355; 6423-236. Selects screen configurations, manipulates and interacts with displayed data and manages screen presentations. Concurrent operation of up to four host interactive sessions. Window may be moved or altered and defined as a combination of up to ten logical screens.
IBM 3270-PC ☐ Cost: $300

INFORMATION ACCESS CORP.

☐ D2FORM
Facilitates development of data entry screens. Full cursor control, 256 ASCII characters set supported, X-Y coordinates and length of field stored in ASCII file for later retrieval by applications programs.
IBM PC ☐ 64 KB req. ☐ Copies sold: 20 since 1982 ☐ Cost: $45

INFORMATION DESIGN, INC.

☐ BasicWindow
Screen generator for BASIC programs. Designs screen formats, including field attributes and color combinations. Performs display, keyboard input and editing.
IBM PC, XT, AT, PCjr ☐ 96 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $100

JYACC, INC.

☐ Formaker
Screen and window manager. Consists of utility which allows free-form creation and modification of screens and collection of library routines which provide program access to screen.
IBM PC ☐ 256 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $650-$5,000

KOLINAR CORP.

☐ Xmenu/E
Screen manager for IBM display terminals. Utilizes 3270 terminal features. Interactive screen editor, EXEC/REXX interface module, subroutine library callable from all IBM supported programming languages, 3279 programmed symbol set editor, DMS conversion program and CICS map generator.
IBM XT/370 ☐ 512 KB req. ☐ Copies sold: 162 since 1984 ☐ Cost: $1,100

MANAGEMENT TECHNOLOGY, INC.

☐ Screen Monitor
Menu selection, box title, title line, data input, data entry, data menu and enter message.
IBM PC, XT

MASTER COMPUTER SYSTEMS, INC.

☐ FORMIX
Panel-oriented screen management system that interfaces with multiple development languages. Provides application prototyping, system messaging, format and edit control, field level attribute control, and panel/field sensitive on-line help facility.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $695

MICRO DATA BASE SYSTEMS, INC.

☐ Screen Maker
Enables application developers to create end user interfaces. Screen and terminal independent. Single screen format can be used in multiple applications. Complement to MDBS III.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $2,500-$5,050

MICRO FOCUS, INC.

☐ CO-Maps
For CICS and IMS screen mapping on PC. Generates IMS/MFS and CICS/BMS macros and associated COBOL source statements. Converts CICS application screens to IMS. Screen painter. Map set, map and field definition, directory and copy facilities.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $500

☐ Forms-2
COBOL source code generator for Micro Focus' CIS COBOL, Level II COBOL, data entry/inquiry and application prototyping and screen form variable.
IBM PC, RT ☐ 64-256 KB req. ☐ Copies sold: 5,000 since 1979

MICRO PRISM

☐ Screensaver
Screen protection utility. Prevents monitor damage by automatically clearing screen after user selected time period.
IBM PC ☐ 64 KB req. ☐ Copies sold: 125 since 1984 ☐ Cost: $25

MICROPLOT SYSTEMS

☐ Piced
Allows user to make modifications to standard Tektronix 4010 format picture file. Inserts/deletes characters, deletes lines and adds page breaks. Displays full screen of ASCII characters which make up picture file. Strips out crosshair cursor control characters. Sorts pictures into separate files.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $40

NATIONAL SOFTWARE ENTERPRISES, INC.

☐ Demo Maker
Generates screens for presentations. Edits saved screens. New screens may be added and mixed with saved screens. Runs finished demo file, on timed basis or with viewer manually stepping through screens. Demonstrates an application's features without having to run program.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $125

THE SOFTWARE BOTTLING COMPANY OF NEW YORK
6600 Long Island Expressway
Maspeth, NY 11378
(718) 458-3700

Screen Sculptor creates professional looking, fully functional screens in minutes, then writes the program either in IBM BASIC, Turbo Pascal, IBM Pascal, or QuickBASIC. Uses simple word processor style screen editor. Instantly generates fully commented, bug-free program source code to provide data entry. Price $120.

NOSTRADAMUS, INC.
SEE AD ON PAGE 240

☐ Screen Genie
Creates and edits screens. Paints/unpaints. Draws/undraws in any direction. Copies/moves lines or window pieces with forgiving adjustment feature. Creates fields and generates code. Creates load files for any language, .obj files and .com external procedures.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $70

OAKLAND GROUP, INC.
☐ C-Scape
Screen generator for programmers using C language. Includes utility to produce C code from Dan Bricklin's Demo Program. Library provides functions including fields, menus, prompts, text, scrolling, full type support, definable validation and colors. Includes source code.
IBM PC

OMNISOFT ASSOCIATES
☐ OMNISCREEN
SCRNFMTR interactively formats and manages screen(s). SMAIN allows application program to display and control screen processing through function. SMAIN LANGUAGE INTERFACE provides interface to SMAIN for each language supported by OMNISCREEN.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $250

PACIFIC SOFTWARE (WA)
☐ SCREEN-EZ
Screen handler, interface for application programs using screen I/O. Supports numeric, alpha, alpha/numeric and unedited type data fields. Field attributes include highlights, underline and secret.
IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $85

PROCESS CORP.
☐ PC Forms
Formatted CRT screen management tool. Provides sequential, unformatted ASCII text file that can be created by standard CRT editor. Displays and edits information through direct CRT cursor control. Clear screen, display form, output information and get data from CRT commands. Backspace, tab, escape and linefeed controls.
IBM PC

RVA TECHNOLOGY, INC.
☐ Flexgen - Screen Program Generator
Creates file maintenance programs with screen painter and screen program coder. Full screen design capability of 80 characters on 22 lines. Full cursor movement over entire screen. Forward and backward scanning.
IBM PC ☐ 64 KB req.

THE SOFTWARE BOTTLING COMPANY OF NEW YORK
6600 Long Island Expressway
Maspeth, NY 11378
(718) 458-3700

Flash code is a program developer for dBase II, III, and III Plus. Comes with a powerful screen editor, window editor, a program generator, and flash-up feature to put pop up windows and menus into dBase application. The window editor and flash-up feature together, create menus and windows that add new dimensions to dBase applications. No more license fee for flash-up module. Price $150.

I. P. SHARP ASSOCIATES, LTD.
☐ FSDesign
Moves text on screen, controls color and intensity, specifies which fields are to be protected. Error messages and prompts. Stores and retrieves screens. Scrolling and paging, copying and moving fields, switching modes and resizing.
IBM 3270-PC ☐ Copies sold: 10 since 1984 ☐ Cost: $5,000

SOCIAL AND SCIENTIFIC SYSTEMS, INC.
☐ S3-Screen
Generates IBM's ADMS linkage for TURBO or C. Accesses screen input by record or variable in character format. Changes most screen features without recompiling. Screens accessible from many languages.
IBM PC, XT, AT ☐ Cost: $30

THE SOFTWARE BOTTLING CO. OF NEW YORK
SEE AD ON PAGE 401

☐ Screen Sculptor
Designs and creates data entry input screens. Generates source code in IBM BASIC, Quick BASIC, IBM Pascal, Quick BASIC or Turbo Pascal. Specifies variable names, data types, acceptable data ranges and pictures for edit verification.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $125

SOFTWAY, INC.
☐ MATIS
Windows screen management and data manipulation for BASIC applications. Seventy BASIC-like instructions define layouts, data acquisition fields and windows. Screens may be referenced by name, saved and loaded from disks.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $50

☐ MATIS/T
Window screen management and data manipulation system for BASIC applications in Turbo Pascal. Manages 8 user-defined windows.
IBM PC, XT, AT ☐ Cost: $30

SOURCEVIEW SOFTWARE INTERNATIONAL
☐ PCScreen
Screen generator. Designs user input screens for inclusion in user's programs. Converts screen into BASIC program segments that can be linked to program or screen control subroutine.
IBM PC ☐ Cost: $50

TECNOMICS, INC.
☐ IBM PC Xeditor (PCX)
Full-screen editor. Views, copies and modifies files. Provides more than 100 pre-set commands and creates additional commands. Executes second level of DOS commands and then returns to editor.
IBM PC, AT, XT ☐ 128 KB req. ☐ Copies sold: 70 since 1984 ☐ Cost: $55

TELESENSORY SYSTEMS, INC.
☐ PC Vert
Works with off-the-shelf synthesizers to enable visually-impaired user to access PC by touch typing with system giving verbal feedback of screen. Stops process with new command without waiting for completion of old command or without terminating voice. Built-in synthesizer and CPU.
IBM PC

☐ Soft Vert
Works with off-the-shelf synthesizers to enable visually-impaired user to access IBM and compatibles. User accesses by touch typing and system gives verbal feedback of screen. Works with add-on synthesizers, ranging from Echo PC to DEC Talk.
IBM PC ☐ Cost: $750

☐ VersaBraille II
Electronic braille microcomputer with standalone filing system and word processing. Supports TTY-type terminal to mainframes, minis, and data bases. Accessed by touch typing. Gives verbal feedback of screen.
IBM PC

☐ Vert Plus
Works with off-the-shelf synthesizers to enable visually-impaired user to access PC by touch typing with system giving verbal feedback of screen. Card plugs internally into PC with software. Requires no serial ports. Navigates without going into review mode, by using cursor keys.
IBM PC ☐ Cost: $1,995

☐ Vista System
Image enlarging system for visually-impaired user. Card plugs into PC with software. Magnifies print on IBM color or monochrome monitor. Mouse-controlled. Magnifications include color graphics, highlighted fields and cursor attributes.
IBM PC, XT ☐ Cost: $1,700

☐ 3278 Vert
Emulates 3278 terminal and accesses IBM mainframes. Designed for visually-impaired user. User accesses by touch typing and system gives verbal feedback of screen. Supports position referencing, editing and status information.
IBM PC, XT, AT ☐ Cost: $295

TEXAS INSTRUMENTS
☐ TIFORM/PC
Form-based screen management. Compatible with TIFORM 990. Allows several applications to access same form; keeps applications independent of terminal. Permits form testing. Data validation. Specification of predata entry attributes such as tab setting, blinking and initial values.
IBM PC ☐ Introduced: 1984 ☐ Cost: $400

TLM, INC.
☐ Screen Generator
C language screen generation. On-line hold, 3270 features, screen editor, data dictionary and field validation.
IBM PC, XT ☐ 256 KB req. ☐ Cost: $395

TRAVELING SOFTWARE, INC.
☐ T-View 80
Transforms a 40-column screen into a movable 60-column window on a full 80-column display. Includes a Traveling Memory Manager program that keeps track of file sizes and manages laptop computers' memories. Used with TEXT and TELCOM.
IBM PC ☐ 16 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $40

VIKING SOFTWARE SERVICES, INC.
☐ Forms Manager
Full-screen fill-in-the-blanks CRT I/O system. Includes data validation and interactive screen painter.
IBM PC ☐ 128 KB req. ☐ Copies sold: 400 since 1981 ☐ Cost: $600-$6,000

SECURITY/AUDITING

ABSOLUTE SECURITY, INC.
☐ Keystore
RAM-resident utility to copy keyboard activity. Protects against system interruptions. Writes to designated floppy or hard disk and allows playback or reprocessing by CPU. Multi-user, multi-file capability. Utility for diagnostics, training and security.
IBM AT ☐ 7 KB req. ☐ Copies sold: 500 since 1986 ☐ Cost: $99

ADVANCED COMPUTER SECURITY CONCEPTS
☐ Cryptogard Generated Key System
Cryptographic security. Implements U.S. government approved data encryption standards. Provides authentication and communication security in financial transaction and other networks. Prevents software piracy.
IBM PC ☐ 8 KB req. ☐ Introduced: 1982

"How to protect your software by letting people copy it."

By Dick Erett, President of Software Security



Inventor and entrepreneur, Dick Erett, explains his company's view on the protection of intellectual property.

"A crucial point that even sophisticated software development companies and the trade press seem to be missing or ignoring is this:

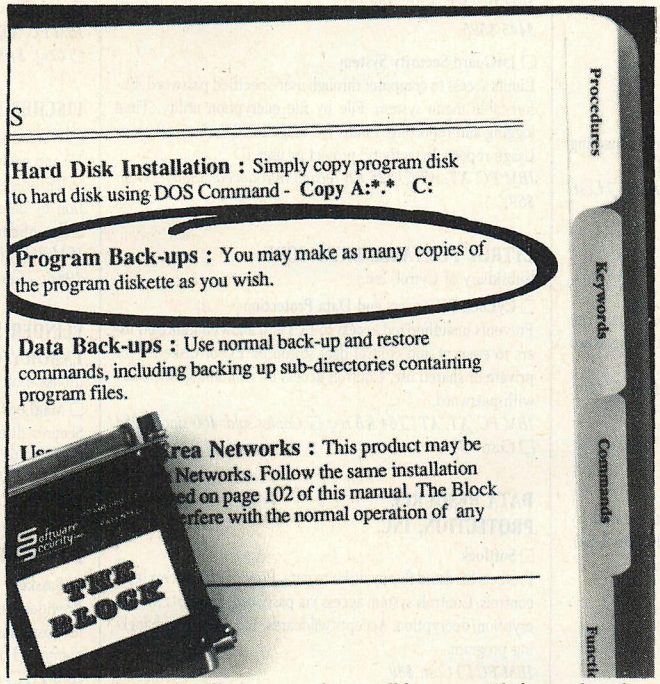
Software protection must be understood to be a distinctively different concept from that commonly referred to as copy protection.

Fundamentally, software protection involves devising a method that prevents unauthorized use of a program, without restricting a legitimate user from making any number of additional copies or preventing program operation via hard disk or LANs.

Logic dictates that magnetic media can no more protect itself from misuse than a padlock can lock itself.

Software protection must reside outside the actual storage media. The technique can then be made as tamper proof as deemed necessary. If one is clever enough, patent law can be brought to bear on the method.

Software protection is at a crossroads and the choices are clear. You can give product away to a segment of the market, or take a stand against the theft of your intellectual property.



Soon all software installation procedures will be as straightforward as this. The only difference will be whether you include the option to steal your product or not.

"...giving your software away is fine..."

We strongly believe that giving your software away is fine, if you make the decision to do so. However, if the public's sense of ethics is determining company policy, then you are no longer in control.

We have patented a device that protects your software while allowing unlimited archival copies and uninhibited use of hard disks and LANs. The name of this product is The BLOCK™.

The BLOCK is the only patented method we know of to protect your investment. It answers all the complaints of reasonable people concerning software protection.

In reality, the only people who could object are those who would like the option of stealing your company's product.

"...eliminating the rationale for copy-busting..."

Since The BLOCK allows a user to make unlimited archival copies the rationale for copy-busting programs is eliminated.

The BLOCK is fully protected by federal patent law rather than the less effective copyright statutes. The law clearly prohibits the production of work-alike devices to replace The BLOCK.

The BLOCK attaches to any communications port of virtually any microcomputer. It comes with a unique customer product number programmed into the circuit.

The BLOCK is transparent to any device attached to the port. Once it is in place users are essentially unaware of its presence. The BLOCK may be daisy-chained to provide security for more than one software package.

Each software developer devises their own procedure for accessing The BLOCK to confirm a legitimate user. If it is not present, then the program can take appropriate action.

"...possibilities... limited only by your imagination..."

The elegance of The BLOCK lies in its simplicity. Once you understand the principle of The BLOCK, hundreds of possibilities will manifest themselves, limited only by your imagination.

Your efforts, investments and intellectual property belong to you, and you have an obligation to protect them. Let us help you safeguard what's rightfully yours. Call today for our brochure, or a demo unit."

Software Security inc.

870 High Ridge Road Stamford, Connecticut 06905

203 329 8870

AIP

☐ SoftGuard
Allows user-defined software to be used only on specific computers. Includes object module that links to BASIC program which allows program to be run on computer with protection module.
IBM PC, XT ☐ 64 KB req. ☐ Cost: $75

AK TECHNOLOGIES CORP.

☐ GateKeeper Secure Menu System
Microcomputer administration. Provides security and reporting capabilities. Assigns private user passwords. Encrypts and decrypts protected files for authorized users.
IBM PC ☐ 128 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $195

THE ANSWER IN COMPUTERS (TAIC)

☐ Security
Password protection for programs and files without impacting normal processing and with no modifications to OS.
IBM PC ☐ 64 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $50

APG SOFTWARE

☐ XPACK
Packs/encrypts files to be sent over 7 bit electronic mail. Encrypts multiple sets of files simultaneously. Provides password security.
IBM PC ☐ 64 KB req. ☐ Copies sold: 500 since 1986 ☐ Cost: $50

ASHTON-TATE

☐ Framelock
Encrypts files read by IBM PC including those created by Framework, dBASE II, dBASE III, WordStar and Lotus 1-2-3. Provides security, password protection and cipher.
IBM PC, XT, AT ☐ Cost: $40

AST RESEARCH, INC.

SEE AD ON PAGES 161/172/173/174/175

☐ Knight Data Security Manager
Password and copy protection utilities. File management features. Electronic message center allows messages to be sent to users in protected mail boxes. Network version available.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $295

BEST POWER TECHNOLOGY, INC.

☐ DATASAVE
Provides 2-way communications between PCs and MICROFERRUPS. Displays line power status information. Displays estimated backup time remaining when power failure occurs. Shuts down program and saves files during long power outage.
IBM PC, XT, AT ☐ Cost: $50

BORLAND INTERNATIONAL, INC.

SEE AD ON INSIDE COVER & PAGE 1

☐ SuperKey
Reviewed Jun 1985 p. 162; Oct 1985 p. 131.
Encrypts files, specifies password to lock unattended keyboard and turns off screen to protect data. Loads, edits and saves keyboard macros and cuts and pastes text from screen. Prokey compatible.
IBM PC, XT, PCjr, AT, Portable PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $70

CHAMPION BUSINESS SYSTEMS

☐ Password
Designed to allow or restrict access into any module or menu selection in Champion III Business Accounting System. Up to 10,000 user-definable codes.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $149

COMPUTER SECURITY CORP.

☐ Citadel Security System
Limits access to computer through user-specified password. Limits access to files stored on floppy diskette or fixed disk. Keeps audit trail log of various activities including illegal file access attempts. Defines access as read/write, read only or totally unavailable.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $295

☐ Sentinel Security System
Limits access to computer or files stored on floppy diskette or fixed disk through user-specified password. Encrypts image of protected files on disk. Keeps audit trail log of various activities including illegal file access attempts.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $445-$595

☐ 1stGuard Security System
Limits access to computer through user-specified password. Enforceable menu system. File by file encryption utility. Time logging and reporting. Limits PC usage to 20 authorized users. Usage reports by activity, project or user ID.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $69

CYTROL PORTABLE DATA CORP.

(subsidiary of Cytrol, Inc.)

☐ CyLock PC Access and Data Protection
Prevents unauthorized access to PCs and allows authorized users to encrypt and control data stored on PC or diskettes for private or shared use. Controls access by combining smart key with password.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $549

DATA RESOURCE PROTECTION, INC.

☐ Softlock
Protects hard and floppy diskette data. Provides file access level controls. Controls system access via password. Supports file encryption/decryption. Accepts wildcards. Includes system locking program.
IBM PC ☐ Cost: $89

DIGITAL DISPATCH, INC.

☐ Data Physician
Detects and removes self-replicating code generated by hackers. Tests data security and disaster recovery procedures.
IBM PC ☐ 128 KB req. ☐ Cost: $50

DIGITAL SIGNATURE

☐ Crypt Master/24, 16
Reviewed Jun 1985 p. 162.
Encryption package for microcomputer security. Implements RSA public-key cryptosystem and National Bureau of Standards DES. Requires passwords for decryption but not encryption.
IBM PC, XT, AT ☐ 196 KB req. ☐ Copies sold: 125 since 1983 ☐ Cost: $95 (16); $145 (24)

ELGAR CORP.

☐ FailSafetyNet
Protects PCs and LANs against lost or damaged data from power failure. Saves files and shuts down system when power fails. Returns program and completes unfinished tasks. Unattended operations include sorting, file merge, indexing and communications. Requires Elgar's battery backup systems.
IBM PC ☐ Cost: $199

ELITE SOFTWARE SYSTEMS

☐ ENCOMP
Data file security program which restricts user access by encrypting information and saves disk space by compressing data. User-specified password of up to 300 characters.
IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $100

ENIGMA LOGIC

☐ SafeWord System Integration Kit
Secures access to programs and data bases. Provides changing-password security. Includes calculator-like dynamic password issuing devices which serves as password dispenser. Works on security logic requiring new password each time protected program is used. Maintains successful/unsuccessful attempts audit trail.
IBM PC ☐ Cost: $100 and up

E-X-E SOFTWARE SYSTEMS

☐ Onguard III Executive
Prevents unauthorized use and destruction of data. Features audit trail, multi-level password security, transparent use and flexible file sharing or restriction. Encryption diskette available.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $495

FISCHER INNIS SYSTEMS CORP.

☐ Watchdog
ID and password access control to prevent unauthorized access to hard-disk data. Encryption/decryption provides data protection by default. Read-only/write-only permissions. Audit trail and confidential mail facility.
IBM PC, XT, AT/370, 3270-PC ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $295

FLINDER SOFTWARE LABORATORIES

(division of Michael Flinder & Associates, Inc.)

☐ MagLock
Secures directories, sub-directories or hard disk and restricts their use to authorized persons. User-assigned passwords.
IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $89

FOX & GELLER, INC.

☐ Passkey
Provides password protection for your Lotus 1-2-3 files. Lets user assign unique passwords to each worksheet, and all data is encrypted to prevent unauthorized access by other methods.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $49

GLENCO ENGINEERING, INC.

☐ Coupon Padlock
Copy prevention technique, which can be preset for number of times programs can run. Subroutine is provided which checks diskette. When last coupon is used, fingerprint is erased.
IBM PC ☐ Copies sold: 30,000 since 1984

☐ Data Padlock
Reviewed Jun 1985 p. 162.
Encodes files using National Bureau of Standards DES. Eight character password. Supported by command line options including hide/un-hide, verify, read/write, verify password and make file read only.
IBM PC ☐ 64 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $65

☐ HDCOPY
Sixteen KB .EXE program. Allows protected software to run on hard disk without protected floppy disk in drive A. Protects one hard disk per floppy.
IBM PC ☐ 64 KB req. ☐ Copies sold: 40,000 since 1985 ☐ Cost: $200

☐ PC Crypt
Gives any application program the security of DES without writing DES source. Implemented via call statement.
IBM PC ☐ Copies sold: 100 since 1984 ☐ Cost: $150

☐ PC Crypt Star
Subroutine to encrypt character strings. Supports DES algorithm. Password protection. Allows user to encrypt data in memory before it is stored on disk.
IBM PC ☐ Copies sold: 100 since 1984 ☐ Cost: $150

☐ **PC Padlock**
Unauthorized duplication prevention. Uses encryption scheme that will preclude program from running after an unauthorized duplication has been made. Requires additional line of code to user's program.
IBM PC ☐ 48 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $99

☐ **PC Padlock II**
Copy prevention technique which pre-formats and prepares each disk. Several formats available for single- and double-sided diskettes.
IBM PC ☐ 64 KB req. ☐ Copies sold: 500,000 since 1984 ☐ Cost: $2-$6

HAWKEYE GRAFIX

☐ **DES-PAC**
Performs government approved data encryption in three modes. Features electronic code book, cipher feedback and cipher block chain. Provides data compression and SIXPAC formatting which allows for transmission or storage via any medium.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 150 since 1985 ☐ Cost: $59-$399

HARLAN S. HERSEY, INC.

☐ **CMPR (Text File Compare Program)**
Audits program/file changes. Compares line-oriented text files.
IBM PC, XT, PCjr, AT ☐ 64 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $50

HEWLETT-PACKARD CO.

☐ **Secure**
Provides access security to HP Portable Plus for confidentiality.
IBM PC

H-F COMPUTING SERVICES, INC.

☐ **HFTools For Disk Security**
Provides data locking mechanism. Works independently from data creation. Password protection.
IBM PC, XT, PCjr, 3270-PC ☐ 64 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $100

☐ **HFTools For File/Directory Security**
Prevents unauthorized access to files and subdirectories. Provides data locking mechanism. Lock stays with data. Uses user ID/password to gain access. Master user facility provides administration and control functions and ability to unlock all files/directories.
IBM PC, XT, AT, PCjr, 3270-PC ☐ 128 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $350

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ **Data Encoder**
Reviewed Jun 1985 p. 162.
IBM no. 6024-149. File encryption. Uses algorithm to encode and decode files and programs for protection and security of sensitive data.
IBM PC, XT, Portable PC, AT, PCjr ☐ 192 KB req.

INFOCODE, INC.

☐ **InfoLok**
File security program with encryption, teleformatting, file-hiding and file-purging.
IBM PC, XT, AT ☐ 60 KB req. ☐ Cost: $149; lease plans available

INFOMAINT/HEALTHWARE, INC.

☐ **dKey**
Key and lock control. Allows layers of master keys. Lists lock/key by department, holders of any type of key, keys held by person and other related reports. Permits global updates.
IBM PC, AT ☐ 128 KB req. ☐ Copies sold: 30 since 1984 ☐ Cost: $595

INTERNATIONAL PHASOR TELECOM, LTD.

☐ **PhasorCode 1000**
Reviewed Jun 1985 p. 162.
Public-key encryption package with menus, batch files, wildcards, e-mail interface and key management. Secures any type file in transmission and in storage.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $99

JONES FUTUREX, INC.

☐ **AutoCrypt I**
Data encryption key exists in data encryption processor. Generated by user's key phrase in conjunction with manager's master key. Encrypts data sent to disk and decrypts data retrieved from disk when used in conjunction with Jones Futurex Encryptor Series.
IBM PC ☐ 256 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $95

☐ **BCP-3680 Cryptographic Module**
Works with emulation programs including IBM's BCP to provide cryptographic support of IBM's feature 3680. Called by BCP user exit routines or equivalent. Uses Encryptor hardware to perform cryptographic functions according to SNA definitions for cryptography.
IBM PC, XT, AT

☐ **Electronic Key Distributor**
Distributes cryptographic keys from central site to remote sites using protocols defined in ANSI 1985 Financial Institution Key Management Wholesale. Includes programs for remote sites and central site.
IBM PC, XT, AT

☐ **File Message Authentication Code**
Employs ANSI 1982 Financial Institution Message Authentication to append MAC to end of file. Stores files or sends to another location. Checks MAC prior to using file.
IBM PC, XT, AT

☐ **LoadKey**
Cryptographic key-loading program for Encryptor 304, 305 and 306 DES processors. Includes loading keys into fixed/variable key storage and loading SNA communications keys.
IBM PC, XT, AT

☐ **Private File Security**
Controls files to be transmitted, duplicated or stored. Encrypts files for storage, transmission over public communications networks or for mail shipments. Transfers secured files between users on private basis if sender and receiver exchange keys.
IBM PC, XT, AT

☐ **SNA-3680 Cryptographic Module**
Works with SNA emulation programs to provide SNA cryptographic support. Can be added to programs emulating IBM's 3274, 3276, 3776, 3777 and 3790 Control Unit/Display Stations. Compatible with IBM's VTAM and ICAM with encrypt/decrypt option.
IBM PC, XT, AT

K PLUS L SOFTWARE

☐ **N-Code**
Multi-layered security and file protection. Encrypts using DES or customized algorithm or superencipher using both. User option for ASCII only cipher characters. Password access to program functions.
IBM PC ☐ 192 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $99

KNIPFTY SOFTWARE

☐ **Tight Security**
Compression/encryption utility. Compresses standard ASCII or text files up to 50 percent of original size. Password protection. Creates separate key file necessary to unlock compressed/encrypted file. Displays summary screen that includes data relating to file that was compressed/encrypted.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $130

LAKE AVENUE SOFTWARE

☐ **Cover Your ASCII**
Encrypts dBASE II, dBASE III and dBASE run time. Includes optimizer to speed up programs. Can be used with Prolok to guard against unauthorized disk copies. Handles batch file processing.
IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $195

☐ **Cover Your Data**
Encrypts dBASE II and dBASE III data files. Requires 5 KB of disk space. Provides password protection to secure sensitive data. Can be used with Clipper or Word Tech compilers.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $195

LATTICE, INC.

SEE AD ON PAGE 279

☐ **SecretDisk**
Uses NBS Data Encryption Standards to provide security for user-selected files. Password-controlled command line switches protection on and off. Encrypted or un-encrypted backup.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $60

MCTEL, INC.

☐ **P/C Privacy: Personal/Confidential**
Reviewed Jun 1985 p. 162.
Protects data integrity with checksums. Offers DES option.
IBM PC, XT, AT ☐ 32 KB req. ☐ Copies sold: 2,500 since 1984 ☐ Cost: $95-$140

MEDIA SYSTEMS TECHNOLOGY, INC.

☐ **Flexlock**
Software protection system.
IBM PC, XT

MEGAWEST SYSTEMS, INC.

☐ **MegaSentry**
System security.
IBM PC, XT ☐ 32 KB req. ☐ Copies sold: 10 since 1980 ☐ Cost: $1,100

MICROCOMPUTER APPLICATIONS (CO)

☐ **Bit-Lock**
Multi-layered security system. Uses decryption algorithms and small port transparent security device. Available for parallel or serial port.
IBM PC, AT, XT ☐ Copies sold: 4,000 since 1982 ☐ Cost: $395

MID-AMERICAN CONTROL CORP.

☐ **Prompt Terminal Security**
Provides partition management and terminal security. When program is loaded next available partition is selected by searching partitions eight through one and selecting first available contiguous space of memory as specified by the user in a control file.
IBM XT, AT ☐ 18 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $2,500

RAINBOW TECHNOLOGIES, INC.
17971 Skypark Circle, Suite E
Irvine, CA 92714
(714) 261-0228
TELEX: 3860789

DATA SENTINEL—PRIVATE PC USER SECURITY
- Provides Seal and Open of Private Data
- Hardware Key Plugs Into Parallel Port
- No Systems Work Necessary
- Easy-To-Use Menu Driven Software
- Compression Reduces Files by 50 percent
- $195.00; Free Matching Key Included

MORGAN COMPUTING CO., INC.

☐ Copy Protector
Normal use of copy and diskcopy commands are rendered ineffective when disk is protected with system. Supports mass duplication from master disk. Protection embedded in source code.
IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 300 since 1982 ☐ Cost: $295

MPPI, LTD.

☐ PC Lock IV
Mainframe-like log-on security for PCs with auditing, encryption (DES option) and subdirectory access control. Controls A: B: and C: boots.
IBM PC ☐ 64 KB req. ☐ Copies sold: 3,900 since 1982 ☐ Cost: $299-$449

NEW ENGLAND MICROCOMPUTER CO.

☐ Encryptor
Encodes any file to protect against unauthorized access. Uses single password and can be used in electronic mail systems.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $60

OBSIDIAN COMPUTER SYSTEMS

☐ Super Encrypter II
Reviewed Jun 1985 p. 162.
Scrambles/encrypts files, groups of files, disks and subdirectories. Eight levels of password security with 255 characters each.
IBM PC ☐ 64 KB req. ☐ Copies sold: 6,239 since 1984 ☐ Cost: $100

P.C. HOLMES, INC.

(division of Morris Information Systems, Inc.)

☐ ShurLock
Protects information on hard disk. Prevents outsiders from entering system. Regulates access of authorized users. Uses ID/password combination. Controls which commands can be used by each user. Reports on computer use and access attempts covering up to 450 days.
IBM PC ☐ 256 KB req. ☐ Copies sold: 18 since 1986 ☐ Cost: $595

PICO PUBLISHING

☐ Crypt
Encrypts data files. Allows multiple encryptions.
IBM PC ☐ 64 KB req. ☐ Introduced: 1986 ☐ Cost: $10

POLYTRON CORP.

SEE AD ON PAGES 348/382

☐ PolyWindows Cryptographer
Memory-resident data encryption/decryption utility. Protects data on disk or data sent via modem. Requires PolyWindows DeskPlus.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $49

POWER UP

☐ Off The Record
Permits only password holders to access files. Apple version encrypts individual DOS 3.3 files and entire DOS, ProDOS, Pascal and CP/M diskettes. IBM version hides files so they do not appear in on-screen directories and encrypts files.
IBM PC, XT, AT, PCjr ☐ 48 KB req. ☐ Cost: $40

PRIME FACTORS, INC.

☐ Descrypt/MS
Micro Assembly source of DES. Can be used for PROM DES for ATM boards, POS terminals, integration into real-time or batch communications in smart terminals. A variety of sizes and speeds for 8088 family. Z80 family and 6502 microprocessors are available.
IBM PC ☐ 1 KB req. ☐ Copies sold: 10 since 1982

☐ Psypher
Uses variety of modes of DES. Encrypts any file supported by OS. Includes data compression. Keys may be entered interactively in DES hexadecimal form or as phrases.
IBM PC ☐ 32 KB req. ☐ Copies sold: 19 since 1981 ☐ Cost: $395

☐ u-Psypher
Encryption and decryption uses variety of modes of DES. Includes data encryption file by file, protection of data stored on diskette or hard disk and communications security.
IBM PC, XT, AT ☐ 50 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $395

THE PRINCETON SOFTWARE CO.

☐ Data Security Facility-ASM
General purpose, high speed data encryption and decryption library (DES). Provides multiple encryption algorithms, including NBS DES algorithm.
IBM XT/370 ☐ 15 KB req. ☐ Copies sold: 10 since 1982 ☐ Cost: $500

☐ Secure/CMS
CMS file encryption utility. Implements system-wide encryption standards and incorporates modes of encryption for varying levels of data security.
IBM PC, XT/370 ☐ 30 KB req. ☐ Copies sold: 10 since 1982 ☐ Cost: $300

QUALTEC, INC.

☐ Data-Lok
Locks access to files recorded on disks. Uses two commands, lock and unlock.
IBM PC ☐ 25 KB req. ☐ Copies sold: 250 since 1984 ☐ Cost: $100

RSA DATA SECURITY, INC.

☐ Comsafe
Provides digital signatures to authenticate origin and content of electronic documents, allowing electronic documents to serve as legal contracts. Includes communication protocol with DES encryption and automated key management.
IBM PC ☐ 150 KB req. ☐ Cost: $350

☐ MailSafe
Data security system for electronic mail applications. Creates and verifies electronic digital signatures. Verifies the source of received messages. Assures the integrity and authenticity of received data. Electronically seals sensitive data for transmission.
IBM PC ☐ 128 KB req. ☐ Cost: $250

☐ Public Key Cryptosystem
Adds identification, authentication and privacy protection to communications programs. Provides data authentication via digital seal. Digital envelope provides privacy protection.
IBM PC ☐ 80 KB req.

SAFEWARE COMPUTER SYSTEMS

☐ SAVYOUR Software System
Generates user-specific security systems. Develops prevention procedures, risk analysis and disaster recovery plans.
IBM PC, XT ☐ 64 KB req. ☐ Cost: $75

SAGE SOFTWARE, INC.

☐ CARS
Audit tool. Establishes data validity and produces reports. Portable across more than 20 environments. Includes report generating functions.
IBM PC ☐ 140 KB req. ☐ Copies sold: 500 since 1975 ☐ Cost: $12,000-$27,000

SECURE SYSTEMS TECHNOLOGY, INC.

☐ CONFIDANTE I
Provides transparent data security through active encryption/decryption. Operates as background program. Works with software such as Lotus 1-2-3 and dBASE. User may turn encryption off/on, select specific drives to secure or change passwords.
IBM PC ☐ 128 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $99

☐ CONFIDE
Standalone file by file encryption/decryption system particularly suited to occasional file access. Uses SST or DES algorithm.
IBM PC ☐ 64 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $59

SECURITY MICROSYSTEMS CONSULTANTS

☐ LOCKIT I
Passwords of up to six characters. Utilities specify whether or not the machine will allow boot-up from A drive. Timlok sets time from 1-59 minutes after which machine will relock if no keys are pressed.
IBM PC, XT, AT ☐ Copies sold: 200 since 1984 ☐ Cost: $130

☐ LOCKIT II
Allows creation of password protected directories on the hard disk which are invisible to all but the authorized user.
IBM PC, XT, AT ☐ Copies sold: 400 since 1985 ☐ Cost: $40

SOFTGUARD SYSTEMS, INC.

☐ SUPERLoK
Copy protection provides full install/uninstall capabilities to hard or floppy disk. Vendor determines how many authorized copies can be made. Requires no special media or source code changes. Installation prompts and error message can be customized. Serialization option available.
IBM PC, XT, AT, PCjr, Convertible ☐ Copies sold: 1,000 since 1983

SOFTWARE AG OF NORTH AMERICA, INC.

(wholly owned operating subsidiary of Software AG Systems, Inc.)

☐ ADABAS/CPO
Delivers 24-hour data base availability. Detects and recovers from catastrophic I/O errors, providing transparent read/write access to current back-up data if primary data is inaccessible.
IBM PC

☐ Review
Resource tracking and auditing system for ADABAS and Software AG's Com-plete transaction processing system. Generates all summary, detail and exception reports to manage capacity, account for system usage, performance and detect abnormal or unauthorized activities.
IBM PC ☐ Introduced: 1984 ☐ Cost: $10,000

SOFTWARE MASTERS (IN)

☐ Unprotect
Unprotects basic programs.
IBM PC, AT, XT, PCjr ☐ Cost: $50

SOFTWARE STUDIOS, INC.

☐ Scrambler: Data Encryption
Data and text encryption program. Converts ASCII text into undecipherable representations with code key input. Code keys may be character, word or phrase up to 255 characters.
IBM PC, XT, AT ☐ 64 KB req. ☐ Cost: $49

SOFTWARE SYNERGY, INC.

☐ Respond/Secure Autocrypt
Protects files by encrypting and decrypting data written to and read from selected disk drives. Manages files, loads encryption key, and sends data to and from encryption board. Includes PC expansion board.
IBM PC ☐ 256 KB req. ☐ Cost: $450

☐ Respond/Secure Private Files
As each file is accessed, user must enter 8 byte key associated with that file. Encrypts or decrypts file using U.S. Govt. DES algorithm. Manages files, loads encryption keys, and sends data to and from encryption board. Includes encryption board.
IBM PC ☐ 256 KB req. ☐ Cost: $350

THE SOFTWARE TOOLWORKS

☐ Pack and Crypt
Disk utility. Saves disk space and provides security for sensitive data. Uses Huffman coding to compress files. Takes user-provided password and employs Tausworth-Lewis-Payne based cipher algorithm to protect files against unauthorized readers.
IBM PC ☐ 48 KB req. ☐ Introduced: 1980 ☐ Cost: $25

SOPHCO, INC.

☐ PROTEC
Five levels of protection including boot, password, file, customizable access, and external encryption for floppy disks. No-copy feature prevents users from copying from hard disk to floppy disk.
IBM PC, XT, AT, XT/370 ☐ 128 KB req. ☐ Copies sold: 6,000 since 1983 ☐ Cost: $195

SYSTEMS ASSOCIATES, INC. (OH)

☐ Key Inventory Control System
Controls 60,000 keys and 40,000 keyholders. Provides access security. Maintains keyholder information including name, social security number, title, department and 30 keys each with quantity, date issued/due back and person who authorized issuance. Includes lock installation record. Generates reports.
IBM XT, AT ☐ 320 KB req. ☐ Copies sold: 1 since 1985 ☐ Cost: $6,000

TACT TECHNOLOGY

☐ DiskSentry
Protects data stored on PC hard or floppy disks. Encrypts stored data. Predetermines user options. Concealed master key enables system administrator to decrypt user's files when original key is unavailable. Compatible with Wordstar, Multimate, Lotus 1-2-3, dBASE II and III and R:base.
IBM PC

TANDEM COMPUTERS, INC.

☐ Safe-T-Net
Data encryption subsystem. Provides message authentication and on-line master key change mechanisms. Encrypts SNAX terminal sessions and files.
IBM PC ☐ Cost: $35,000

TECHNICAL COMMUNICATIONS CORP.

☐ Key
File security/encryption. No passwords involved. Uses ciphering material on floppy disk to encrypt/decrypt. Copies, renames and backs up encrypted files. Checks each keystream statistically to ensure security.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $90

TRANSEC SYSTEMS, INC.

☐ UNlock
Removes copy protection on duplicate copies. Works with hard disks such as Bernoulli Boxes. Operates on RAM disk or microfloppy drive.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $50

TRIGRAM SYSTEMS

☐ DataSafe
Software implementation of DES for file security. Functions include encryption, decryption, verification, plain text destruction and MAC generation.
IBM PC ☐ 50 KB req. ☐ Copies sold: 1,000 since 1982 ☐ Cost: $139

UNITED SOFTWARE SECURITY, INC.

☐ LazerLock
Authentication security system. Provides single product solution across manufacturers equipment from micros to mainframes.
IBM PC ☐ 6 KB req. ☐ Cost: $130

☐ Masterkey
Works with Privacy Plus 2.00 to recover files locked by Privacy Plus in case of lost or forgotten password.
IBM PC, XT, AT ☐ 60 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $350

☐ PrivacyPlus
Allows users to electronically and selectively lock data on all files, text and programs.
IBM PC ☐ 128 KB req. ☐ Copies sold: 3,000 since 1984

☐ Private Eye
Blanks screen after period of keyboard inactivity on single control keystroke.
IBM PC, XT, AT ☐ 20 KB req. ☐ Introduced: 1985 ☐ Cost: $65

VAULT CORP.

☐ Chronolok
Limits number of times protected program can run. User specifies number of times desired, 1-32,000, during Proloking process. Recommended for demonstration diskettes and other limited application programs.
IBM PC, XT, AT, PCjr

☐ CopyWorks
Copy protection and enhancement for mass duplication software and data management programs. Duplicates protected and unprotected programs. Each master diskette includes Prolok option that protects software using Vault fingerprinted diskettes for duplication. Creates disks with 8 or 9 sectors per track.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 60 since 1986 ☐ Cost: $695

☐ Filelok
Protects confidential data files from unauthorized access and duplication. Encrypts data files based upon presence of physical fingerprint placed on diskette.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100,000 since 1984 ☐ Cost: $9

☐ Hard Disk Prolok, Floppy based Prolok
Maintains protection against unauthorized end-user duplication of software programs. Protection invisible to legitimate user.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 2,000,000 since 1982 ☐ Cost: $9

☐ Telelok
Allows software to be transmitted over ordinary telephone lines and received in form which prevents illegal copying by unauthorized users.
IBM PC ☐ 48 KB req. ☐ Copies sold: 100 since 1983

☐ Unilok
Uses identical fingerprinted diskettes in conjunction with Prolok protection to allow duplicate key protection systems, and to facilitate field updates. Recommended when limited series of interchangeable diskettes are desirable.
IBM PC, XT, AT, PCjr

VOXTRON SYSTEMS, INC.

(subsidiary of Detex Corp.)

☐ Veritron Series 1000
Voice verification access control products for facilities of up to 250 doors and 16,000 users. Access granted by using authorized person's voice as key. Features alarm reports and audit trails.
IBM PC, AT ☐ 640 KB req. ☐ Copies sold: 5 since 1986

WHELAN ASSOCIATES, INC.

☐ IWS/Sentry
Monitors remote PC access to data on Series 1 by providing access validation, transaction verification and transaction logging for remote users.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2 since 1984 ☐ Cost: $600

WINTERHALTER, INC.

☐ Secure
Provides centralized or user-controlled security administration and data encryption under US government approved DES algorithm. Graphic directory display, user-selectable encryption of files and/or directories, user password control and selection. Audit trail report generation available.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $325-$475

☐ Secure Master Key
Password recovery for security administration. Audit trail report generation. Tracks system usage including security violations. Records date, time and user information on valid/invalid login attempts, programs executed and file creation/access.
IBM PC, XT, AT ☐ Cost: $475

☐ Secure PS (Privacy Software)
Provides centralized or user-controlled security administration and data encryption under US government approved DES algorithm. Graphic directory display, user-selectable encryption of files and/or directories, user password control and selection. Audit trail report generation available.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $70-$100

WOLF DATA SERVICES, INC.

☐ Security System
User ID, password protection, security codes, user function and activity configuration, system logging and monitoring capabilities and system coding to create multi-company environment.
IBM PC ☐ 256 KB req. ☐ Copies sold: 40 since 1978

SORT/MERGE

COMPUTER ASSOCIATES INTERNATIONAL, INC.

☐ CA-Sort/CMS
OS sort capabilities under CMS. Include/omit record selection capability, in-core sort capability and compatibility with CA-SORT/OS. Supports user exits. May be invoked from COBOL, Assembly or PL/1.
IBM PC/VM/PC ☐ 30 KB req. ☐ Introduced: 1978 ☐ Cost: $750

COMPUTER CONTROL SYSTEMS, INC.

☐ AUTOSORT/86M
High-speed sorting. Standalone sort routine or may be called as subroutine from BASIC interpreter, BASIC compiler, FORTRAN, Lattice C or Pascal. Ten sort keys (ascending or descending), four select keys. Sorts and selects are on string, integer, single-precision and double-precision fields.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,000 since 1982 ☐ Cost: $150

ENSIGN SOFTWARE

☐ FASTSORT
Machine language shell sort for use with BASIC programs. Sorts any array into ascending or descending order. Callable from interpretive BASIC or may be compiled.
IBM PC, XT, AT, PCjr ☐ 48 KB req. ☐ Copies sold: 700 since 1982 ☐ Cost: $25

HAI SOFTWARE, INC.

☐ HAI*LINE SORT
Sorts almost any field within HAI*LINE data file. Sorts include alphabetic sorts for customers, vendors and inventory items; inventory sort by product code, vendor code or bin number; and sorts by cumulative sales of customers and inventory items.
IBM PC ☐ 128 KB req. ☐ Cost: $145

HFK SOFTWARE, INC.

☐ QWERTY Text Merge
Mail/merge system. Custom copies of template document. Substitutions may be from zero to 1,200 characters. For use with QWERTY documents, but may be used with any ASCII files. Supports Professional QWERTY attributes and format parameters.
IBM PC, XT, AT, Portable PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $59

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Sort
IBM no. 6024-138. Extended files and standalone support in BSEPP.
IBM PC ☐ Introduced: 1980 ☐ Cost: $175

INFO-PROS, INC.

☐ Info-Sort
Standalone or interfaces with existing applications. Sorts 1,000 records (64 bytes) on six-byte string key. Sorts on one to nine keys independently, ascending or descending. Character string, integer or single or double precision fields with 65,535 records processed with maximum record length of 4,096.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,000 since 1982 ☐ Cost: $95

INFORMATION RESOURCES, INC. (NY)

☐ Cosort
Sort/merge routine for interactive and batch operations. Sorts over 1,000 records per second, procedure-to-procedure and file-to-file. Unlimited records, files and keys. Fixed or variable length records. Fixed or comma separated keys. Standalone or called from BASIC and RM/COBOL.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 4,600 since 1982 ☐ Cost: $200

INNER ACCESS CORP.

☐ Power Sort
Skips over records, concatenates files, merges sorted files, selects records based on keys that may contain wild card characters. Up to 30 select and sort keys.
IBM PC ☐ 48 KB req. ☐ Copies sold: 10 since 1982 ☐ Cost: $95

MARTIN MARIETTA DATA SYSTEMS

(operating company of Martin Marietta Corp.)

☐ SortIT
Fast I/O. Supports data types including ASCII characters, alpha, integer, word and floating point. Sorts data in ascending or descending sequence using up to 9 fields. Merges up to 10 input files into single file.
IBM PC, XT, AT ☐ 48 KB req. ☐ Copies sold: 770 since 1983 ☐ Cost: $125

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ Sort Facility
Standalone and COBOL-hosted versions. Standalone version accepts user data files and arranges records in user-specified order. For COBOL-hosted version, source of input may be one or more disk files.
IBM PC ☐ 44 KB req. ☐ Introduced: 1980 ☐ Cost: $195

MIRACLE COMPUTING

☐ Qusort
Sorts mailing lists, stock listing, payroll and inventory. Handles 8,000,000 records.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 65 since 1982 ☐ Cost: $35

OPT-TECH DATA PROCESSING

SEE AD ON PAGE 2

☐ Opt-Tech Sort
Sort/merge/select utility. Fixed or variable length records. Ten key fields, record selection and reformatting, comma delimited files, and dynamic memory allocation. Runs as DOS command or can be called as subroutine from 25 languages including dBASE II and III.
IBM PC, AT, XT ☐ 64 KB req. ☐ Copies sold: 5,000 since 1982 ☐ Cost: $149

PECAN SOFTWARE SYSTEMS, INC.

☐ Sort Utility
IBM PC, XT, AT ☐ Cost: $40

PERSONAL COMPUTER SUPPORT GROUP, INC.

☐ Sort 2+
File sorting.
IBM PC ☐ 16 KB req. ☐ Introduced: 1983 ☐ Cost: $30

PERSONAL SOFTWARE CO.

☐ Sort/Merge
Maximum record length allowed is 510 characters. Memory and workfile sorts optional. Six fields sorted in ascending or descending order. Sort program prints listing of sort specifications and I/O files.
IBM PC ☐ 128 KB req. ☐ Copies sold: 250 since 1982 ☐ Cost: $25

QUANTUMN INFORMATION SYSTEMS, INC.

☐ QISORTC
Callable from RM/COBOL. Handles V1.5X and V2.XX data files. Can use packed (COMP-3) and binary (COMP-1) files for sequence control selection. Up to 32 control fields, 32 record selection fields and 32 output fields.
IBM PC ☐ 64 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $95

RAPI-SERV CASH SYSTEMS, INC.

☐ MEGASORT
Merges up to 70 files and scans any file for specified pattern. Stands alone or may be used from a subsystem such as BASIC.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 5 since 1984 ☐ Cost: $75

SOFTWARE MASTERS (IN)

☐ Sort-Merge-Copy
Sort utility. Standalone or called from any language.
IBM PC, AT, XT, PCjr ☐ Cost: $150

SOFTWARE RESEARCH TECHNOLOGY

☐ dFASTEST
Sort package.
IBM PC ☐ Cost: $90

STRUCTURED SYSTEMS GROUP, INC.

☐ QSort
For ASCII disk files. Sorts files up to eight Mb with one to five key fields. Sorts SSG programs.
IBM PC, XT, AT ☐ 32 KB req. ☐ Copies sold: 25,000 since 1977 ☐ Cost: $100

SYSTEMAT CORP.

☐ Sortex
Select/sort/merge facility. Runs via menu, control file and command line. Supports text, sequential and random file formats. Supports character and numeric data types. Output file contains full records, indexes, addresses or keys. Unlimited number or size of records and keys.
IBM PC ☐ Cost: $100

UNIVAIR, INC.

☐ UNI-SORT
Interface module between Univair's vertical application programs and UNI-FILE DBMS or WordStar, dBASE and Lotus 1-2-3. Creates sorted secondary database for auxiliary reports.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $95

SYSTEM DESIGN & METHODOLOGIES

AGS MANAGEMENT SYSTEMS, INC.

☐ Computer-Aided Methodology
Aid for evaluating, planning, organizing and measuring functions in information systems development process. Prioritizes service requests. Handles project scheduling, resource assignment and control. Provides system development guidelines. Describes phases in system life cycle and tasks to be performed to complete phase work.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 10 since 1985 ☐ Cost: $22,950

ARTHUR ANDERSEN & CO.

Management Information Consulting Division

☐ METHOD/1 Information Systems Methodology
Systems management guidelines address project management, maintenance management, work programs, estimating, project control, quality assurance and documentation. Uses structured approaches for analysis, design, programming, testing and maintenance.
IBM PC ☐ 512 KB req. ☐ Copies sold: 400 since 1979

CADRE TECHNOLOGIES, INC.

☐ Teamwork/RT (Real-time)
Provides real-time extensions to Teamwork/SA for real-time structured analysis. Includes unified control/data flow diagram, state transition diagram, state event matrix, decision table and process activation table. Displays data/control flows alone or simultaneously. Multi-user.
IBM RT ☐ 2,000 KB req. ☐ Introduced: 1986 ☐ Cost: $3,600-$8,900

☐ Teamwork/SA (Systems Analysis)
Multi-user. Integrates system development methodologies, distributed processing, CAD/CAM/CAE and interactive graphics. Formulates system requirement, organizes them into models and evaluates/maintains models. Manipulates project models. Examines requirements from multiple viewpoints. Checks for errors/consistency. Syntax-directed editing.
IBM RT ☐ 2,000 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $3,600-$8,900

☐ Teamwork/SD (Systems Design)
Manipulates/evaluates system designs. Evaluates completeness/accuracy. Creates/integrates structure charts with module specifications and data dictionary definitions. Combines CAD, interactive graphics and distributed processing. Includes project library, design rule checking, model configuration management, annotation and query. Multi-user.
IBM RT ☐ 2,000 KB req. ☐ Introduced: 1986 ☐ Cost: $3,600-$8,900

CHARLES RIVER DEVELOPMENT

☐ Data-Station
Systems analysis and process modeling system for use with Autodesk's AutoCAD. Produces hi-res, color graphics. Includes entity relationship, Gane & Sarson, Nassi-Schneiderman, Jackson charts, Yourdon, decision trees, access maps, flow charts and symbol library. Optional data dictionary interface.
IBM PC ☐ 512 KB req. ☐ Copies sold: 45 since 1985 ☐ Cost: $550-$1,450

COMPUTER ASSOCIATES INTERNATIONAL, INC.

☐ CA-Estimacs
System development effort, staffing and cost, hardware configuration, portfolio, maintenance and fiscal planning estimator. Raw estimates of total work hours needed for project completion. Color graphics display relationship between input and forecasts. Transfers estimating information to CA-Planmacs to produce project completion plan.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 300 since 1982 ☐ Cost: $15,000

COMPUTER SCIENCE INNOVATIONS, INC.

☐ **SDL (Software Design Language)**
Designs software at system level, process level, module level and algorithm level. Formatted output contains title page, table of contents, text segment bodies, data definition bodies, logic flow segment bodies, data item cross reference, flow segment cross reference and flow segment reference trees.
IBM PC ☐ 128 KB req. ☐ Copies sold: 29 since 1984 ☐ Cost: $400

DELTACOM, INC.

☐ **PRISM (People, Resources, Information Systems Management/Strategic Management)**
Systems life cycle management tasks, business/systems, strategic planning and applications development productivity. Module alternatives include strategic and tactical systems planning, management systems specification and implementation, information systems specification implementation and interactive processing and centralized and distributed systems management capabilities.
IBM PC ☐ 512 KB req. ☐ Copies sold: 50 since 1974 ☐ Cost: $20,000

INDEX TECHNOLOGY CORP.

☐ **Excelerator/RTS**
Workbench for systems analysis. Support facilities for creating and modifying systems diagrams and charts, screen and report specifications. Project dictionary stores entries and tracks relationships between them. Includes block security device.
IBM PC, XT, AT, 3270-PC ☐ 512 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $8,400

INFORMATION DESIGN, INC.

☐ **SST**
System design. Incorporates text/graphic images in design. Includes text/graphic frame editors. Uses English-like commands. Provides event trapping for training and prototyping. File support/data manipulation. Offers visual special effects. Script editor/language checker. Accesses DOS sub-environment.
IBM PC

KOS & ASSOCIATES, INC.

☐ **KISS/COBOL**
COBOL standardization and maintenance methodology. Enforces uniform structure for programs.
IBM PC, AT ☐ 25 KB req. ☐ Copies sold: 5 since 1980 ☐ Cost: $5,000-$10,000

ARTHUR D. LITTLE, INC.

☐ **ADL-IRMA**
Manages definition and structure of data independently of any physical implementations including support for domains. Supports definitions of data flows, processes and external entities. Draws and prints data flow diagrams. Relates data flows to logical data design. Supports prototyping of screen and business systems planning.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 12 since 1984 ☐ Cost: $20,000

MCDONNELL DOUGLAS PROFESSIONAL SERVICES CO.

☐ **DFDdraw**
Graphic symbols template for data flow diagrams. Positions, connects and annotates symbols. Performs scale, size, pan, zoom and restore. Integrates with Stradis/Draw and ProfKit * Analyst.
IBM PC, XT, AT, 3270-PC ☐ 320 KB req. ☐ Copies sold: 1,200 since 1984 ☐ Cost: $500

☐ **ProKit * Analyst**
Systems design tool for application analysts. Assists in data flow diagram preparation while creating support documentation in data dictionary. Provides status information and analysis with 46 reports. Includes horizontal/verticle balancing.
IBM PC, XT, AT, 3270-PC ☐ 640 KB req. ☐ Copies sold: 350 since 1985 ☐ Cost: $2,450

☐ **SCdraw**
System design tool using structure chart graphic symbols.
IBM PC, XT, AT, 3270-PC ☐ 320 KB req. ☐ Introduced: 1986 ☐ Cost: $500

NASTEC CORP.

SEE AD ON PAGE 381

☐ **DesignAid**
Support tool for structured analysis and design. Supports word processing and graphics requirements. Validates and balances data flow diagrams. Extracts key information and loads it into design dictionary.
IBM PC, XT, AT, 3270-PC ☐ 640 KB req. ☐ Cost: $6,900

☐ **Nastec Case 2000**
Performs analysis and validation of requirements and design. Project planning, estimating, quality review and control. Accesses IBM host computers. On-line support for DSSD and JAD methodologies. Provides bridge to PSL/PSA, host-based design tool. Includes Tarkenton Software's application generator. GAMMA.
IBM PC ☐ 640 KB req. ☐ Introduced: 1985 ☐ Cost: $6,900

NEWKIRK MANAGEMENT SERVICES, INC.

☐ **SMM II (System Management Methodology)**
MIS management. Includes procedures for new development, enhancements and maintenances and estimating guidelines. Incorporates structured and prototyping techniques. Defines project deliverables, rolls and responsibilities, work to be done, sequence of tasks, and reviews and approvals.
IBM PC ☐ Copies sold: 15 since 1975

PROMOD, INC.

☐ **Promod**
Integrated systems engineering environment with structured analysis, modular design, code frame generators and pseudo code. User builds system models with data dictionary, data flow diagrams and mini-specifications. Transformation, system design, program design and implementation.
IBM XT, AT ☐ 640-4,000 KB req. ☐ Copies sold: 512 since 1980 ☐ Cost: $9,950

QUANTITATIVE SOFTWARE MANAGEMENT

☐ **SEAS (Software Engineering Assessment Service)**
Software productivity evaluation. Utilizes a combination of numeric measures, environmental analysis and graphical industry comparisons.
IBM PC ☐ Cost: $10,000-$55,000

☐ **SLIM (Software Lifecycle Model)**
Software cost schedule, risk and reliability estimation. Discloses minimum time to develop a system. Imposes management constraints on project including cost, manpower and schedule.
IBM PC ☐ 32 KB req. ☐ Copies sold: 80 since 1979

SCIENCE APPLICATIONS INTERNATIONAL CORP.

Computer Systems Operation

☐ **SAIC-SDDL (Software Design and Documentation Language)**
Table of contents, module cross-reference listings and invocation trees. User-defined keywords, structured design constructs, a top-down approach and iterative software design. Error summary report and level and metric directives. Page and line numbering, indentation and flow-of-control arrows.
IBM PC ☐ Copies sold: 70 since 1982 ☐ Cost: $800

SOFTWARE PRODUCTIVITY RESEARCH, INC.

☐ **SPQR/20 (Software Productivity, Quality and Reliability)**
Plans software development/maintenance. Predicts development schedules, resources, staff sizes, costs, defect rates, reliability and maintenance/enhancement levels of software projects. Predicts number of code lines required by project for 30 major software languages.
IBM PC ☐ 256 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $5,000

TRANSACTION SYSTEMS, INC.

☐ **Automatic Flow Chart System**
Creates, edits and prints diagrams for system design and documentation.
IBM PC, XT, AT, PCjr, XT/370, 3270-PC, Portable PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $55

VISIBLE SYSTEMS CORP.

☐ **Analyst**
Selection of standard symbols, custom symbol creation capability selectable worksurface sizes with automatic panning/scrolling and zooming for large diagrams, dynamic symbol sizing, true point-to-point line drawing, selectable background color and nesting features for managing and accessing hierarchical decompositions.
IBM PC, AT, XT, 3270-PC ☐ 384 KB req. ☐ Copies sold: 350 since 1985 ☐ Cost: $595

☐ **Analyst's Workbench**
Integrated package including Visible Analyst, Visible Rules, and Visible Dictionary.
IBM PC, XT, AT, 3270-PC ☐ 384 KB req. ☐ Copies sold: 250 since 1985 ☐ Cost: $1,785

☐ **Dictionary**
Maintains information created by Visible Analyst and Visible Rules. Entries automatically populate dictionary. Unlimited number of lines are available for minispecifications, composition values of data flows and value/meanings of data elements. Over 60 lines of notes available for other entries.
IBM PC, XT, AT, 3270-PC ☐ 384 KB req. ☐ Copies sold: 250 since 1985 ☐ Cost: $595

☐ **Rules**
Design analysis tool used with the Visible Analyst. Accepts files created with the Visible Analyst. Provides a visible record, file and data base layout. Supports hierarchical set of data flow diagrams. Provides hierarchical numbering of process symbols and diagrams.
IBM PC, XT, AT, 3270-PC ☐ 384 KB req. ☐ Copies sold: 250 since 1985 ☐ Cost: $595

TEXT EDITORS

APPLIED SOFTWARE TECH, INC.

☐ **SE**
Full screen text editor. Multiple text buffers with windows, macro definition, optional line numbering, multiple colors on screen, and global search and replacement of text strings or patterns.
IBM PC ☐ Cost: $88

ARRIX LOGIC SYSTEMS, INC. (ALSI)

☐ **APS/SPF**
Reviewed Mar 1986 p. 113.
Text editing and utilities package. Manipulates textual data. Creates, converts and edits files. Accommodates large files.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 3,000 since 1983 ☐ Cost: $145

☐ **APS/SPF Plus**
While compile is being executed, performs editing, browsing or other APS/SPF functions without degradation of response time.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $245

THE BRIDGE, INC.

☐ **SPF/FC**
ISPF-like text editor.
IBM PC

COMMAND TECHNOLOGY CORP.

☐ **SPF/PC**
Reviewed Mar 1986 p. 113.
Full screen text editor. PC version of mainframe ISPF editor. Virtual memory supports large files with hard disk or extended/expanded memory boards. Allows mainframe primary and line commands with line length to 954 bytes. Includes utilities and communications program.
IBM PC, XT, AT, PCjr ☐ 192 KB req. ☐ Cost: $195

COMPUVIEW PRODUCTS, INC.

☐ VEDIT

Cursor movement, editing, languages, automatic indenting for structured programming languages, printing, 38 scratch pad buffers for cut and paste operations, control of file handling and command macros. Word wrap, adjustable margins, reformatting of paragraphs, word and paragraph functions and macros.

IBM PC☐ 64 KB req.☐ Copies sold: 30,000 since 1980☐ Cost: $150

FINDER INFORMATION TOOLS, INC.

☐ PR

Text editor and reformatter. Squeeze and lower case functions convert irregular, inconsistent text downloaded from commercial data bases into finished reports.

IBM PC☐ 128 KB req.☐ Copies sold: 30 since 1984☐ Cost: $300

IBM PERSONALLY DEVELOPED SOFTWARE

☐ Browstext

IBM PDS no. 6276-635. Text, hex and sector editor. Selects files from directory listing. Finds files in subdirectory. Sets function keys. Executes external DOS commands. Uses IBM's EGA (Enhanced Graphics Adapter in 25- through 43-line mode.

IBM PC, XT, AT, 3270-PC, PCjr, Portable PC☐ 128 KB req.☐ Cost: $50

☐ Introductory Editor

IBM PDS no. 6276-589. Full-screen document editor. Edits ASCII data including document files or program source code. Displays files up to 1,500 lines in length and 254 characters wide. Edits files containing up to 50,000 characters. Monochrome and color EGA support.

IBM PC, XT, AT, 3270-PC☐ 128 KB req.☐ Cost: $20

☐ Lite Editor

IBM PDS no. 6276-637. Full-screen text editor. Organizes, outlines, composes, edits and formats data. Moves, copies, overlays and deletes blocks of text. Moves or copies text between different files. Monochrome and color EGA support.

IBM PC, XT, AT, 3270-PC, PCjr, Portable PC☐ 128 KB req.☐ Cost: $25

INTERNATIONAL SOFTWARE ALLIANCE

☐ Proscript Text Formatter

Interfaces with a text editor such as Edlin, VEDIT or PMATE to provide word processing.

IBM PC☐ 64 KB req.☐ Cost: $75

LATTICE, INC.

SEE AD ON PAGE 279

☐ LSE (Lattice Screen Editor)

Multi-window environment allows simultaneous editing and provides cut-and-paste functions between files. Includes block moves, keyboard macros, variable tab settings and insert or overwrite text entry. Provides Lattice C error tracking mode, 3 assembly language input modes and pattern searches.

IBM PC, XT, AT☐ 128 KB req.☐ Cost: $125

LIFEBOAT ASSOCIATES

SEE AD ON PAGE 291

☐ Pmate

Reviewed Sep/Oct 1983 p. 110.

Side-scrolling and two visible cursors. Macro facility with equivalents of if-then-else, do until, iteration, goto, I/O with prompting, user variables and user stack. 11 general purpose buffer registers available.

IBM PC☐ 128 KB req.☐ Copies sold: 10,000 since 1984☐ Cost: $225

MARTIN MARIETTA DATA SYSTEMS

(operating company of Martin Marietta Corp.)

☐ EditIT

Editor with word processing. Multiple files can be viewed or edited simultaneously through windows with user-defined size and color. File merging and document formatting.

IBM PC, XT, AT☐ 64 KB req.☐ Copies sold: 450 since 1984☐ Cost: $100

MERIDIAN SOFTWARE SYSTEMS, INC.

☐ F"

Screen-oriented text editor. Includes an associated marker generator, FF, that integrates editing with compilation tasks.

IBM PC

MICRO DATA BASE SYSTEMS, INC.

☐ K-Text

For use with KnowledgeMan/2 integrated information system. Text entry, editing procedures and formatting.

IBM PC☐ 320 KB req.☐ Introduced: 1984☐ Cost: $175-$660

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ Notepad

Screen-oriented text file editor for use with Microsoft Mouse.

IBM PC

MIX SOFTWARE

☐ Editor

Programmable full/split screen text processor. Splits screen horizontally/vertically. Edits 2 files at once. Moves text back and forth between 2 windows. User-created macro commands. Over 100 predefined commands.

IBM PC☐ Cost: $30

MORGAN COMPUTING CO., INC.

☐ TED

Reviewed Sep/Oct 1983 p. 110.

Full-screen text editor with RAM-resident text files and programmable function keys. Provides block manipulation, line manipulation, allows file merge/search/replace. Works like IBM's TSO/SPF.

IBM PC, AT, XT, PCjr☐ 128 KB req.☐ Copies sold: 700 since 1983☐ Cost: $95

ROBERT L. NICOLAI

☐ Text Editor

Creates/updates programs written in any language. Stores up to 10 pages of text at 63 lines per page. Links longer programs. Provides file I/O routines. Includes calculator and hex number display option. Moves/deletes blocks of text. Adjustable margins/tabs.

IBM PC☐ 128 KB req.☐ Copies sold: 2 since 1986☐ Cost: $20-$25

POPULAR PROGRAMS, INC.

☐ ESP (Entry System for Programs)

Language-oriented program editor. Syntax checking, formatting, program structure manipulation language help and language-oriented abbreviations. Program structures built with single keystroke. Multiple file access, multiple windows, macro commands and power failure and disk full protection.

IBM PC, XT, AT, 3270-PC☐ 192 KB req.☐ Copies sold: 800 since 1983☐ Cost: $249-$399

QUAID SOFTWARE, LTD.

☐ OmniEdit

Supports 2D editor with built-in calculator and communications. Examines and edits DOS files created with other programs. Sorts/moves block or column of text in center of document. Receives text and sends files using Xmodem while other functions are performed.

IBM PC, XT, AT☐ 128 KB req.☐ Introduced: 1984☐ Cost: $40

SOLUTION SYSTEMS

☐ BRIEF, The Programmer's Editor

Text editor with windows, macro language and undo capabilities.

IBM PC☐ 192 KB req.☐ Copies sold: 1,200 since 1984☐ Cost: $195

SUNBELT COMPUTER SYSTEMS, INC.

☐ SUNED86M (MS-DOS DOS-type Text Editor)

Scrolling forward and backward, line or page editing, modification options in page or global edit with or without verification, block editing including insertion from other files, user-defined tab character and multiple scratch files updating original file at EOJ.

IBM PC☐ 128 KB req.☐ Copies sold: 1,500 since 1982☐ Cost: $125

THOMPSON AUTOMATION

☐ Vis

Screen-oriented vi-compatible editor. Permits editing of multiple files in memory and file read/write operations. Performs keyboard buffering, memory compaction and direct screen updating simultaneously.

IBM PC

WATCOM PRODUCTS, INC.

☐ Editor

Reviewed Feb 1985 p. 126.

Line positioning by number or context, line insertion or deletion, global and selective text changes, command recall and modification and file manipulation commands such as directory listing, file rename and deletion.

IBM PC☐ Copies sold: 10 since 1982☐ Cost: $125

WENDIN, INC.

☐ XTC

Multi-tasking text editor featuring multi-tasking macros, windows, text buffers, undo N times, macro programming control structures and variables.

IBM PC, XT, AT☐ 256 KB req.☐ Copies sold: 1,000☐ Cost: $99

WINDOWING SOFTWARE

APPLICATION EXECUTIVE CORP.

☐ APX Core Executive

Reviewed Dec 1985 p. 52.

Runs up to eight programs simultaneously. Cut and paste and keystroke macro facilities. Allows custom programs to call system's functions.

IBM PC☐ 43 KB req.☐ Copies sold: 30,000☐ Cost: $95

COMPUTER ASSOCIATES INTERNATIONAL, INC.

Micro Products Division

☐ EasyPlus Open Window System

Integrates Plus Series programs with up to 10 windows. Runs SuperCalc3, SuperProject, Lotus 1-2-3 and dBASE II. Contextual help screens.

IBM XT, AT, 3270-PC☐ 256 KB req.☐ Introduced: 1985☐ Cost: $149

CXI, INC.

SEE AD ON PAGES 266/267

☐ PCOX/3270 PC Upgrade for IRMA

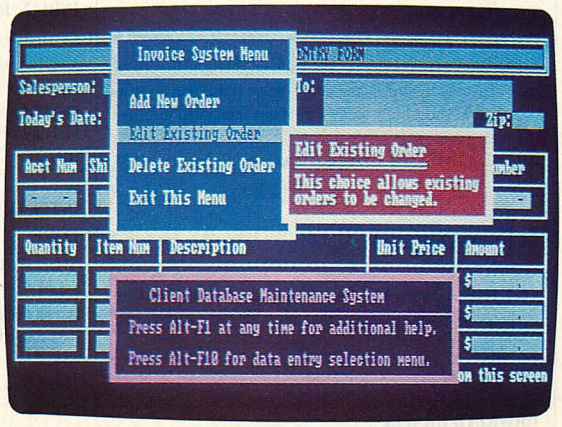
Allows IRMA users to view 5 interactive host application sessions, 2 notepads and PC session simultaneously on PC screen. Transfers information from 1 window to another. Provides CXI and IBM 3270-PC APIS.

IBM PC, XT, AT☐ 448 KB req.☐ Introduced: 1985☐ Cost: $395

Make Flashy Programs.

In dBASE, Turbo Pascal, BASIC, C, COBOL, Fortran, 1-2-3, DOS.

New! Flash-Up™ Windows.



Instantly flash-up menus and help windows.

From within almost any program language or application program. When the user makes a menu selection, a sequence of keystrokes is sent to the running program as if the user were typing it at the keyboard.

A keyboard macro utility that your programs can control!

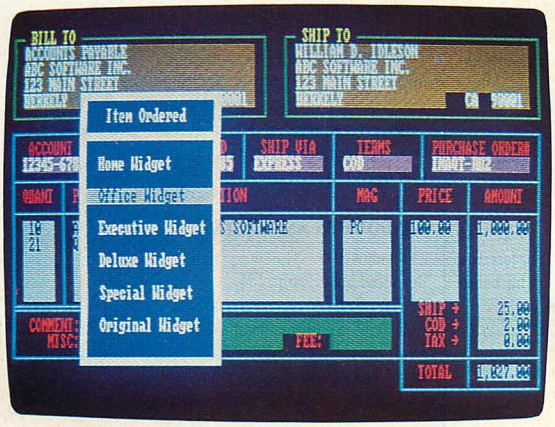
Just like keyboard macro utilities, Flash-Up Windows can be used to send repetitive keystrokes and simplify commands for your users.

But Flash-Up Windows can do more. Your programs can send commands directly to Flash-Up. Powerful commands that control when and how windows appear. Flash-Up is a perfect tool for controlling programs and entire systems via menus.

The powerful window editor allows you to create windows, change their size, location, and color — all automatically.

Works with DOS, BASIC, Turbo Pascal, C, COBOL, Fortran, dBASE, 1-2-3, R:BASE ...and most other software. $90.

Flash Code.™ For dBASE II, III and III+.



The most powerful, most complete program developer for dBASE II, III, and III+.

Use Flash Code's advanced screen design editor and see how incredibly easy screen design can be. Draw boxes, lines, and select colors. Specify special parameters for edit checking, initial values, calculated fields, etc. All within one, easy to use editor.

Then tell Flash Code to write the program. Based on your screen designs, Flash Code can generate a full database program. Well written code that you can use as is, or merge with your own programs.

Menus and help windows add a new dimension to your dBASE applications.

Flash Code includes its own dBASE window editor. Use the window module to flash-up windows and screens instantly. The windows are easily converted when you move to the added power of our Flash-Up Windows product.

"...a truly remarkable product. Brand new, state-of-the-art and actually fun to use. The windows make it an even more amazing product."
— Gary N. Prague, Author, "The dBase III Programming Handbook"

Flash Code. $150.

Screen Sculptor.™ For IBM BASIC, Turbo Pascal, and Quick Basic.

Create screens in minutes, then Screen Sculptor writes the program.

In IBM BASIC, Turbo and Microsoft Pascal, and Quick Basic. Simply "draw" your screens with our advanced screen design editor and replace hours of tedious work with minutes of creative design.

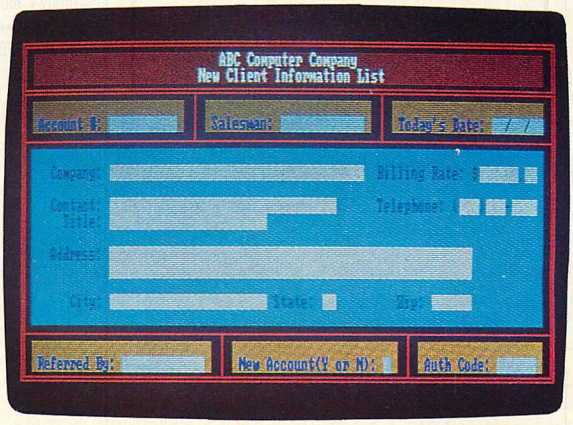
Move pieces of the screen around, select colors from a menu, draw boxes, lines, paint, repeat last character. And more! Specify variable names, data types, acceptable data ranges, pictures for edit checking, etc., and you're ready to go.

Generate tested program source code to merge with your own program.

Based on your screen design. The generated program flashes up the screen, allows data to be entered by the user, and edit checks the input data.

"...so well done that you may not need to refer to the manual."
"...an exceptional product that fills a real need in the development of new programs."
— Computer Language

Screen Sculptor. $125.





No Risk Demo Offer!

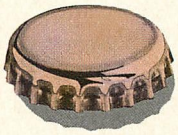
Order any package and receive a separately sealed demo disk of the product. Use the demo and the manual for 30 days. If you're not satisfied — for any reason — return the entire package for a full refund.

Credit card orders call 24 hrs/day: 1(800) 872-8787 operator 310.

All other orders and inquiries call or write Software Bottling Co., 6600 L.I. Expwy., Maspeth, NY 11378. 718-458-3700.

Requires an IBM PC, XT, AT or true compatible, 256K.

Not copy protected.



THE SOFTWARE BOTTLING COMPANY OF NEW YORK

CIRCLE NO. 192 ON READER SERVICE CARD

DIGITAL COMMUNICATIONS ASSOCIATES, INC. (DCA)

☐ IRMAlink/Windows

Allows PCs to have 1 PC window, 1 host window and 2 notepad windows simultaneously. Provides terminal emulation, text editing, password security and 16 colors. Sizes, zooms, overlays, shapes, places, adds or deletes windows.

IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $149

ENTELEKON

SEE AD ON PAGE 372

☐ C Power Windows

Supports overlays, borders, status lines, horizontal/vertical scrolling, color control/highlighting, word-wrap, files to windows and keyboard to windows. Features integrated error reporting.

IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $130

GRID SYSTEM CORP.

☐ Task

Customizes software. Divides screen into two windows. One contains programs running, the other displays customized prompts.

IBM PC

HAWKEYE GRAFIX

☐ Basic Windows

Creates pull down menus or pop-up help windows for MS Quick or IBM BASIC compilers without using available BASIC memory. Input or print strings to window with word wrap, scroll up/down, clear, toss, restore or produce up to 10 simultaneous windows.

IBM PC, AT, XT ☐ 64 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $49-$399

THE SOFTWARE BOTTLING COMPANY OF NEW YORK

6600 Long Island Expressway
Maspeth, NY 11378
(718) 458-3700

Flash-up Windows creates, controls and manages menus and help windows for every application and language. Uses windows to send repetitive keystrokes and commands automatically to program. Most application languages can send commands directly to Flash-Up Windows to control when windows should pop up. Creates consistent user interfaces across applications, includes password protection. Price $90.

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Top View

Reviewed Dec 1985 p. 52.

IBM no. 6024-131. Supports text and graphics, paste/cut or copy between windows. Med-res color and hi-res black and white can be used.

IBM PC, XT, Portable PC, AT, 3270-PC ☐ 256 KB req. ☐ Cost: $175

INDIAN RIDGE ENTERPRISES, INC.

☐ Window Master

Multitasking. Uses Lotus 1-2-3, WordStar or dBASE. Business graphics, color or B/W bar, line and pie charts. Interwindow data transfer. User-definable application menus. Programmable function keys. Handles seven applications at once.

IBM PC, XT, AT ☐ Copies sold: 10,000 ☐ Cost: $50

INTERACTIVE TECHNOLOGY CORP.

☐ I.T. WINDOW

Subroutine library which provides memory management and screen display control. Simultaneously displays multiple sets of data through any window and scrolls or prints data in any window.

IBM PC, XT, AT ☐ 256 KB req.

LIBERTY-BELL SOFTWARE PUBLISHING CO.

☐ dWINDOW

Provides disk-based, tree-structured window files. Allows 100 memory window buffers. Includes 256 characters and color attributes selectable both mono and color systems. Provides executable DOS command under program control.

IBM PC, XT ☐ 192 KB req.

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ Windows

Reviewed Dec 1985 p. 52.

Window manager and graphics device interface. Transfers data between programs. Tilting positions programs to fill entire screen and zoom displays program at screen size.

IBM PC, XT, AT ☐ 192 KB req.

QUARTERDECK OFFICE SYSTEMS

☐ DESQ

Creates customizable, multi-window user environment which integrates user's library of off-the-shelf software programs. Pointer feature can point to and activate commands, switch windows, move or resize windows and cut and paste information from one window to another.

IBM PC ☐ 320 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $200

THE SOFTWARE BOTTLING CO. OF NEW YORK

SEE AD ON PAGE 401

☐ Flash-Up Windows

Creates help/menu windows for most programs. Changes windows' size, location and color. Allows program user to execute commands, call other windows or accomplish actions controlled by keyboard. Works with BASIC, Turbo Pascal, IBM Pascal, C, COBOL, FORTRAN, dBASE, Lotus 1-2-3 and RiBase.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $90

STRUCTURED SOFTWARE SOLUTIONS, INC.

☐ FACET

Window management for UNIX or XENIX host to IBM PC. Up to 10 configurable windows. Window overlapping. Color monitor support. Emulates ANSI terminal.

IBM PC, AT, XT ☐ 256 KB req. ☐ Cost: $195

STRUCTURED SYSTEMS GROUP, INC.

☐ WindowMaster

Full color business graphics. Interwindow transfer, horizontal and vertical scrolling, shrink, enlarge and move windows. User-definable scripts and automatic repetitive tasks.

IBM PC ☐ 256 KB req. ☐ Copies sold: 30,000 since 1984 ☐ Cost: $295

VERMONT CREATIVE SOFTWARE

☐ Windows for C

Reviewed Jul 1985 p. 135.

Video toolkit for screen management tasks. IBM TopView and Microsoft Windows compatible. Features unlimited windows and files, status line management, screen changes, word wrap, horizontal and vertical scrolling, read/write functions and building block subroutines.

IBM PC, XT, AT ☐ Copies sold: 2,000 since 1984 ☐ Cost: $195

WINDOWDOS ASSOCIATES

☐ WindowDOS

Reviewed Mar 1986 p. 185.

Displays available commands and files. User can call up window while in DOS or while running another program. Main window provides panes for 85 files and subdirectory names. Displays up to 255 names from single directory.

IBM PC, XT, AT ☐ 40 KB req. ☐ Introduced: 1985 ☐ Cost: $50

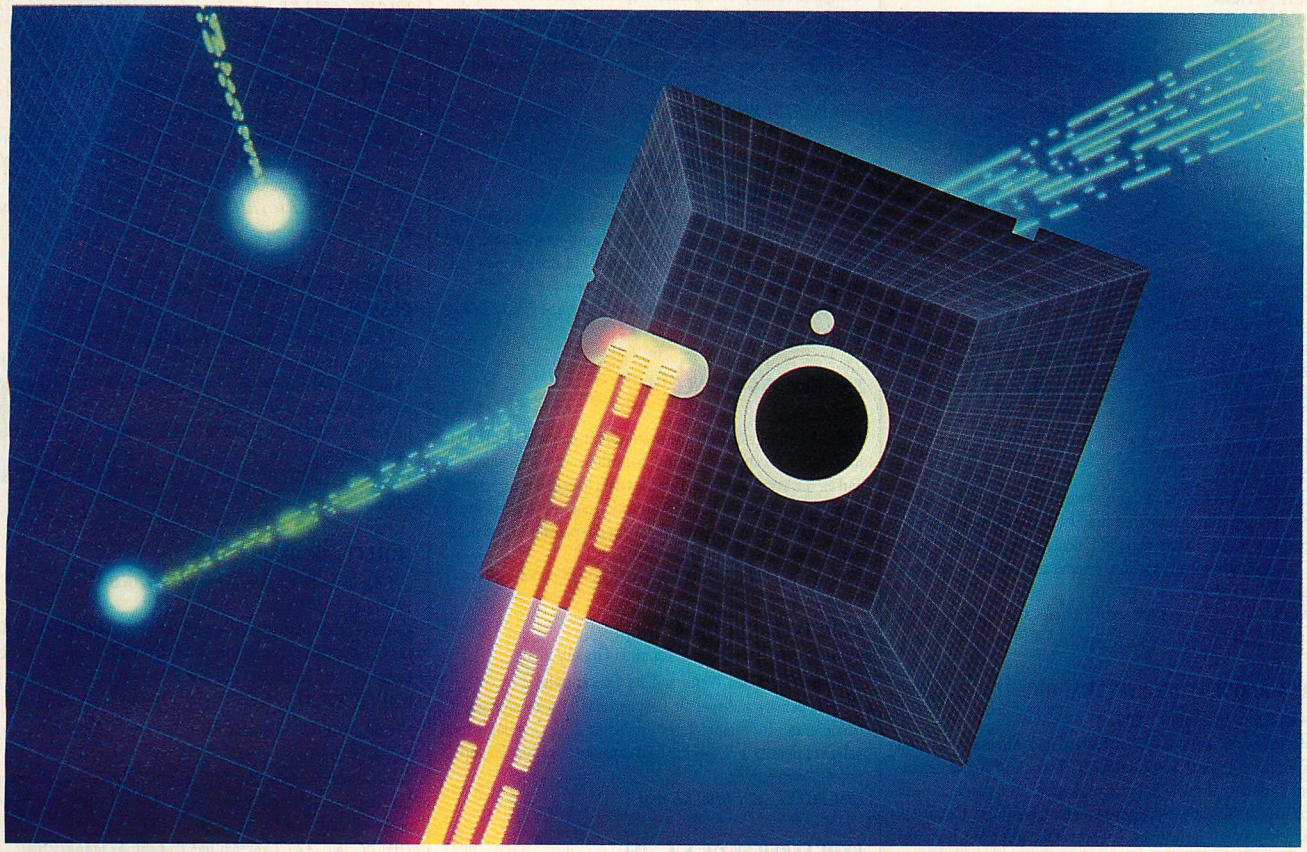
WINDOWSOFT

☐ Windows 4 C

Screen/window handling system. Provides printing to screen, color cursor positioning, scrolling, box printing and restoration of screen parts. Generates windows in text mode. User can open windows in layers and reactivate window any time. Works with Lattice and Microsoft compilers.

IBM PC ☐ Cost: $49

TECHNICAL APPLICATIONS



TECHNICAL APPLICATIONS SOFTWARE

CHEMICAL ENGINEERING

AAA TECHNOLOGY & SPECIALTIES CO., INC.

☐ **Tri*Therm**

Performs thermal design or rating of shell and tube heat exchangers and air coolers. Contains properties data bank and vapor-*liquid* equilibrium routines. Used by petrochemical, refinery, fabrication, power and gas industries.

IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 15 since 1976

ALGOR INTERACTIVE SYSTEMS, INC.

☐ **Asteam**

Includes set of FORTRAN subroutines for computing steam table values and a FORTRAN program for returning steam table values in response to input of temperature and pressure. Table values are calculated to approximate Kennan and Keys steam tables.

IBM AT ☐ 256 KB req. ☐ Copies sold: 12 since 1978 ☐ Cost: $250

APPLIED COLOR SYSTEMS, INC. (ACS)

(subsidiary of Armstrong World Industries)

☐ **1100 Color Quality Control System**

Uses measurements from Spectro Sensor spectrophotometer and color tolerances specified by user for pass/fail QC programs. New color matching, batch correction and waste material usage. Optional formula costing, material requirements and MSDS.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 400 since 1983 ☐ Cost: $24,500

☐ **1800 Color Control System**

Color/quality control system. Provides new color matching, color correction, waste material work-off, laboratory reformulations and batch corrections. Optional formula costing, materials handling and MSDS. Includes color graphics.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $42,900-$49,900

APPLIED OPERATIONS RESEARCH, INC.

Microcomputer Applications Group

☐ **Blending Master**

Blends and formulates chemicals and foodstuffs to minimum/maximum or exact specifications while using least-expensive components.

IBM PC ☐ Copies sold: 50 since 1983 ☐ Cost: $995

☐ **Formulation Tool for Least-Cost**

Calculates least-cost formulations and blends for agriculture, food industry and chemicals. Uses optimizing linear programming techniques.

IBM PC ☐ 192 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $995

BBN SOFTWARE PRODUCTS CORP.

☐ RS/1

For chemical, pharmaceutical, genetic engineering and semiconductor industries. Handles data transformation and analysis, graphics, statistical analysis and curve fitting. Data may be entered directly or from Research Data Entry system. Stores data in 2D table format. Creates bar charts, pie charts, X-Y graphs and 3D graphs. Includes programming language RPL.

IBM PC, XT, AT, 3270-PC, RT PC ☐ 48 KB req. ☐ Copies sold: 2,000 since 1979 ☐ Cost: $2,000

CHEMSHARE CORP.

☐ CHEMTRAN

Includes data base of thermophysical properties for 860 chemicals. Predicts properties for chemicals from 2D chemical drawing. Correlates thermophysical property data for pure components and mixtures.

IBM AT, XT ☐ 500 KB req. ☐ Introduced: 1977

COMPUTER SOFTWARE TECHNOLOGY

☐ Section Properties

Computes area, state and inertia moments on 400 points. Graphs results.

IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $60-$90

☐ 3-D Solids/Shells Inertia

Inertia properties calculation for such axisymmetric solids as shells and lumped masses.

IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $90

CTS ENGINEERING, INC.

☐ Steam Tables

Calculates thermodynamic properties of steam/water along saturated vapor and saturated liquid lines, and in subcooled, superheated and mixture regions. Calculates pressure, temperature, enthalpy, entropy, specific volume and quality when only 2 properties input.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 18 since 1983 ☐ Cost: $125

DATA ACQUISITION SYSTEMS, INC.

☐ Gas Chromatography - 200

Auto scales raw data of chromatogram in Y direction showing most intense peak at 100% intensity. Y-axis and X-axis expansion. Baseline subtract. Reports peak area, area percent, peak type, width, height and height percent. Smoothing. Calculates first and second derivatives. Creates standards files. Requires Macsym 120.

IBM PC ☐ 640 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $495

DATACOR, INC.

☐ CHEMPAX

Includes OE, Invoicing, Purchasing, Production, AR, AP, IC, GL, Future Pricing, Sales Analysis, Reorder Point Week/Telemarketing and Manufacturing Product Formulations modules.

IBM PC, XT, AT ☐ Cost: $5,500

☐ LABELPAX

Generates packaging labels and material safety data sheets in compliance with OSHA regulations.

IBM PC, XT, AT ☐ Cost: $2,100

DYNACOMP, INC.

☐ FCPAK (Fuel Cell Analysis)

Computes exit conditions at fuel cell anode and cathode from inlet conditions. Uses acid, molten carbonate and alkaline fuel cells. Calculates current density from voltage and operating conditions.

IBM PC ☐ 64 KB req. ☐ Cost: $375

☐ Fluidpak

Computes exit conditions from compressor or turbine from inlet conditions and power required to pump a gas. Calculates particulates removal from gas stream and size/cost of Rankine cycle turbines and generators.

IBM PC ☐ 64 KB req. ☐ Cost: $225

☐ HXPAK (Heat Exchanger Analysis)

Computes exit conditions from heat exchangers, boilers and condensers to yield thermal design information from their inlet conditions.

IBM PC ☐ 64 KB req. ☐ Cost: $275

☐ PDrop

Performs pressure drop distribution analysis for pipes. Handles incompressible flow of water and compressible flow of steam or air in circular crossection pipe valves and fittings. Handles laminar to turbulent flows.

IBM PC ☐ 64 KB req. ☐ Cost: $75

☐ Thermopak

Computes enthalpy, temperature, specific heat and rates of specific heats. Handles hydrogen, water, methane, carbon dioxide, oxygen and nitrogen. Eight species capacity. Handles aqueous fuel cell electrolytes. Calculates thermal conductivities and viscosities of seven gases modeled.

IBM PC ☐ 64 KB req. ☐ Cost: $200

DYNAMIC COMPUTER SYSTEMS

☐ Paint Formulating Control System

Creates and adjusts formulas. Expresses ingredient specifications as a weight or percentage of TNV cost, total volume, total pigment, or other ingredient. Can apply old stock to new batches. Includes metric and imperial measures.

IBM PC ☐ 128 KB req. ☐ Copies sold: 1 since 1983 ☐ Cost: $3,000

ENGINEERING-SCIENCE

☐ Wastetrax

Controls/manages/maintains wastewater treatment plants. Performs groundwater monitoring, hazardous waste management and air quality monitoring. Provides data base of daily operating parameters, multiple linear regression routines, reports, work orders, IC, maintenance scheduling and repair history/maintenance cost tracking. Interfaces Lotus 1-2-3.

IBM PC, XT, AT ☐ 448 KB req. ☐ Cost: $5,000-$20,000

ESDU INTERNATIONAL, INC.

(subsidiary of International Thomson Organization)

☐ Properties of Sea Water and Its Concentrates

Obtains density and specific heat capacity of sea water and its concentrates for temperatures exceeding 20C. Computes spot values of density and specific heat capacity to within .05 and .3 percent respectively.

IBM PC, XT, AT ☐ 192 KB req.

EXIM SERVICES OF N.A., INC.

☐ Formatted File Manager/dSCI (Scientific Data base for the Coatings Industry)

Provides chemical formulation management, analysis and quality control. Completes extrapolations with multi-variable and what-if calculation for experimentation, batch pilots or full production. Utilizes Formatted File Manager DBMS with multi-user, open architecture and DIF capability.

IBM XT, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $1,995

FEIN-MARQUART ASSOCIATES, INC.

☐ Mascot

Performs calculations used in elucidation of structures in mass spectroscopy. Supports library searching of two incorporated data bases of common environmental pollutants and forensic drugs. Graphic or tabular displays.

IBM PC ☐ 256 KB req. ☐ Copies sold: 35 since 1985 ☐ Cost: $490

☐ SuperStructure

Graphics program for drawing chemical structures for data base construction or querying. Uses lightpen or mouse. One version querying against the on-line Chemical Information System, the other for private data base construction.

IBM PC ☐ 384 KB req. ☐ Copies sold: 15 since 1985 ☐ Cost: $490

☐ uPDSM - micro Powder Diffraction Search Match

Implements mainframe search-match system for powder diffraction analysis of multiphase mixtures, searching entire JCPDS PDF library of any user-selected subfile. Elemental chemistry options, removal of found phases, and on-line user instruction facility.

IBM PC ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $4,900-$8,800

☐ uThermo - microThermo

Calculates over 230 thermodynamic properties of pure substances. Generates properties of real gas or liquid phase and various equilibrium phases. Results displayed in tabular and/or graphic form or stored on diskette.

IBM PC ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $1,000-$2,000

HAWK SCIENTIFIC SYSTEMS, INC.

☐ Molecular Presentation Graphics

Creates diagrams to illustrate chemical research reports. Reorients and resizes diagrams to fit in blank areas on pages of text. Chemical figures are built-in.

IBM PC ☐ 256 KB req. ☐ Copies sold: 1,500 since 1985 ☐ Cost: $225

INTEGRATED SOFTWARE DESIGN, INC.

☐ CIBL (Chemical Industry Barcode and Labeling)

Designs, stores and prints chemical industry labels. Data base manager stores warning messages and chemical products. Prints warning messages in paragraph format on labels. Labels may include bar codes, graphics and logos. Graphic label/logo editors available.

IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 225 since 1985 ☐ Cost: $2,190

MOLECULAR DESIGN, LTD.

☐ ChemBase (A Chemist's Personal Software Series Program)

Chemical data base manager with search and display capabilities. Allows chemist to build and use data bases containing both molecules and reactions, and associated data.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $3,500

☐ ChemTalk/ChemHost (Chemist's Personal Software Series Programs)

Communications programs that perform terminal emulation and file transfer operations. Allows access to mini-mainframe based chemical data bases.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $1,000-$10,000

☐ ChemText (A Chemist's Personal Software Series Program)

Scientific word processor designed specifically for chemists. Combines full word processing features with the ability to interactively insert molecular structures, reactions, forms, and formulas into text.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $1,500

RADIAN CORP.

☐ CHARM (Complex Hazardous Air Release Model)

Predicts extent and concentration of toxic cloud resulting from a spill of toxic or hazardous materials. Gives emergency procedures, health hazards and safety precautions specific to material released. Requires 8087 math coprocessor, IBM or Plantronics graphics board and color monitor.

IBM PC ☐ 512 KB req. ☐ Copies sold: 65 since 1983 ☐ Cost: $9,500

DB ROBINSON & ASSOCIATES, LTD.

☐ AMSIM

Simulates processes for design of new gas sweetening units, optimization of existing units and debottlenecking of units under changing feed conditions. Uses fixed flowsheet simplified according to user's specifications.

IBM PC ☐ 512 KB req. ☐ Copies sold: 25 ☐ Cost: $4,000

☐ **EQUI-PHASE COLUMN**
Designed for hydrocarbon processing, natural gas, oil refining, NGL fractionation and petrochemical processing. Provides prediction of multistage separation processes by modeling absorption columns, reboiled absorbers, fractionation columns, presaturated absorbers and shortcut distillation.
IBM PC ☐ 512 KB req. ☐ Copies sold: 10 since 1982 ☐ Cost: $2,000

☐ **EQUI-PHASE EOR**
Models laboratory experiments to evaluate reservoir performance and miscible enhanced oil recovery. Includes differential liberation, constant volume and composition depletion, first/multiple contact miscibility and formation volume factors. Property predictions use Peng-Robinson Equation of State.
IBM PC ☐ 440 KB req. ☐ Copies sold: 50 since 1982 ☐ Cost: $2,000

☐ **EQUI-PHASE Hydrate**
Calculates hydrate forming temperatures of pressures in gas phase, totally condensed liquid phase or within dew point-bubble point phase envelope for petroleum fluids. Figures maximum allowable water content in gas without hydrate formation. Estimates hydrate depression by inhibitors.
IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1977 ☐ Cost: $1,500

☐ **EQUI-PHASE Phase Behavior**
Calculates single phase fluid properties, true critical properties for multicomponent mixtures, solid forming conditions for petroleum. Two/three-phase aqueous/non-aqueous systems operations, two/three-phase bubble points, and dew points. Handles constant enthalpy or entropy expansion/compression.
IBM PC ☐ 440 KB req. ☐ Copies sold: 200 since 1976 ☐ Cost: $2,000

SCIENTIFIC SOFTWARE

☐ **PINS (Pharmaceutical Information Network System)**
Networked data base and project management capabilities. Performs searches on entire data base or portion of data base. Table and report generating utilities.
IBM PC ☐ Cost: $25,000

☐ **Stability System**
Manages product stability testing program in pharmaceutical industry. Stability data base management. Assay/stability sample scheduling. Statistical data treatment with graphics. Audit trail capability.
IBM PC ☐ 256 KB req. ☐ Copies sold: 10 since 1983 ☐ Cost: $10,000

THE SOFTWARE GUIDANCE CO., INC.

☐ **MSDS Track & File**
Assists in creating material safety data sheets and tracks distribution. Complies with OSHA regulations regarding hazardous communications. Maintains customer and inventory item information.
IBM XT ☐ 512 KB req. ☐ Copies sold: 12 since 1985 ☐ Cost: $1,295

SOFTWARE SYSTEMS CORP.

☐ **Cogen**
Performs thermodynamic and economic analyses of in-plant cogeneration system using back-pressure steam turbines. Determines steam properties and correlations for turbine part-load performance. Produces lifetime energy utilization and cash flow report for specified configuration.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $495

STOLZBERG RESEARCH, INC.

☐ **Chemicals Distributor**
Provides IC, dot codes, un and na numbers, superfund, sales orders, bills of lading, AR, profitability and drop shipments for chemical industry.
IBM PC, AT ☐ 48 KB req. ☐ Copies sold: 10 since 1980 ☐ Cost: $3,995

☐ **Chemicals Manufacturer/Blender**
Accesses raw chemical inventory in manufacturing of chemical formulae. Tracks inventory by lot number. Provides BOM.
IBM PC, AT ☐ 48 KB req. ☐ Copies sold: 20 since 1980 ☐ Cost: $3,995

TECHDATA

☐ **COMPRESSOR**
Calculates points on centrifugal compressor curve given rate point and defines conditions such as speed, horsepower and outlet temperature for off-design points. Self-contained subprogram finds thermodynamic and physical properties for many gases.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $200

☐ **FLARE**
Helps size flares based on API RP521. Determines tip diameter, flame length and wind deflection, steam required for smokeless burning. Calculates radiation at grade for various stack heights and radiation at various distances for fixed height stack.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $125

☐ **Gas Combustion**
Calculates heat of combustion and flame temperature for gas mixtures. Provides internal data base of common gases.
IBM PC ☐ 92 KB req. ☐ Introduced: 1986

☐ **ORIFICE**
Calculates diameters for square edge orifice plates and calculates pressure drop for given flow. Has self-contained subprogram for calculation of physical properties for many common gases and gas mixtures. Both Spink and Miller calculation methods available.
IBM PC ☐ 92 KB req. ☐ Introduced: 1984 ☐ Cost: $100

☐ **PIPEDP**
Sizes pipe by calculating pressure drop per 100 feet for liquids and gases. Includes default conditions for water and menus for pipe diameters.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ **PIPEQ**
Calculates heat loss to atmosphere from insulated pipe. Any pipe diameter, thickness and thermal properties can be considered. Accounts for effects of wind and surface emissivity. Contains help screens for thermal conductivity and pipe thickness.
IBM PC, XT, AT ☐ 92 KB req. ☐ Introduced: 1983 ☐ Cost: $60

☐ **PUMP**
Lotus template for sizing piping in pumped liquid system. Calculates equivalent lengths of bends and fittings, fluid velocities and pressure loss due to friction for suction and discharge. Produces graph showing pump and system curves. Finds control valve Cv.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1985 ☐ Cost: $70

☐ **SCIPLOT**
Accepts X-Y data and produces presentation quality graphs. Performs polynomial regression on real (containing scatter) data then plots data along regression line. Chooses linear, reciprocal or multiple cycle logarithmic axes. Adjustable scaling. Drives small HP plotters.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $80

☐ **STEAM**
Calculates pressure drop of steam through pipe, performance of multiple inlet flash tanks, required flows in desuperheaters and performance of single stage steam turbines. Internal correlation for thermodynamic properties.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $80

☐ **TANKGAGE**
Produces calibration chart showing depth vs. volume for vertical and horizontal storage tanks and for spheres. Vertical tanks may have conical bottoms. Horizontal cylinders may have hemispherical or dished heads. Several volume units are built in or user can specify special units.
IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $55

☐ **VARIPUMP**
Analyzes performance of centrifugal pumps operated at variable speeds. Calculates speed required to meet flow and head requirement, economics and payback period.
IBM PC ☐ 64 KB req. ☐ Introduced: 1986 ☐ Cost: $70

☐ **WATER**
Accepts basic water analysis data on dissolved impurities as ions or as CaC03 and converts to both. Calculates Langelier and Ryznar indexes, hydroxide, carbonate and bicarbonate alkalinities, electrical conductivity, total dissolved solids, total hardness, ionic balance and strength. Considers effect of temperature.
IBM PC ☐ 92 KB req. ☐ Introduced: 1985 ☐ Cost: $100

WILEY PROFESSIONAL SOFTWARE
(division of John Wiley and Sons, Inc.)

☐ **Hycarb**
Computes the thermodynamic and transport properties of 78 hydrocarbons commonly found in the petroleum and chemical industries. Allows properties to be calculated in either English or SI (metric) units. Constants and/or reference values best suited to the particular application may be entered by the user.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $265

CIVIL ENGINEERING/ ARCHITECTURE

ABACUS COMPUTER SERVICES

☐ **Hydraulics**
HYDRAU, HYDROL, TBACK and PBACK modules. HYDRAU performs full-pipe hydraulics using Manning formula. HYDROL calculates storm run-off for up to 3 recurrence levels simultaneously using Rational Formula Method. TBACK and PBACK develop backwater curves.
IBM PC ☐ 64 KB req.

ABRACADATA, LTD.

☐ **Design Your Home**
Includes architectural, landscape and interior design.
IBM PC ☐ Cost: $70-$100

ACCI BUSINESS SYSTEMS, INC.

☐ **Facility Personnel/Space Requirements**
Describes company's organizational structure down to four levels per major grouping. Handles project personnel and non-people space requirements. Details personnel and space requirements by space standard. Generates data report and adjacency report.
IBM PC ☐ 128 KB req. ☐ Copies sold: 65 since 1983 ☐ Cost: $1,500

☐ **Income Property Analysis**
Can be used by property development firms, commercial loan officers and architects to sell design service to developers. Can be used for apartment complexes, office buildings, shopping malls, hotel/motels and/or their combination. Produces 8-page pro forma.
IBM PC ☐ 64 KB req. ☐ Copies sold: 345 since 1981 ☐ Cost: $995

☐ **Preliminary Project Cost Estimate**
Costs are categorized by foundation, structure, roof system, exterior walls, partitions, interior finishes, specialists, building equipment, heat, vent, air conditioning, plumbing, electrical, special building features and site and special outside work.
IBM PC ☐ 64 KB req. ☐ Copies sold: 800 since 1981 ☐ Cost: $995

☐ **Project Management/Accounting System**
Emulates AIA Structure and ACEC Uniform Cost Accounting Structures. Entry of time sheet and expense data updates all project files, payroll, AP and GL. Produces payroll and AP checks. Reports include project progress, office earnings, project summary, time analysis, cash requirements and invoice aging.
IBM PC ☐ 256 KB req. ☐ Copies sold: 450 since 1982 ☐ Cost: $6,250

AGTEK DEVELOPMENT CO., INC.

☐ Earthwork Analysis System

Computes sitework volumes, areas and lengths. Corrects for strip, subsidence and compaction. Balances dirt. Calculates roadwork haul lengths, haul grades and import/export locations. Stores and retrieves job data and creates bid documentation.
IBM PC, XT, AT

☐ Template Engineering System

Designed for roadwork. Computes station yards, cumulative yards. Corrects for strip, subsidence, compaction. Generates mass diagrams. Draws cross sections.
IBM PC, XT, AT

ALPHANETICS

☐ Civil Engineering Pac

Includes multiple data/job files support, coordinate geometry, erase/renumber points, listing of points including bearings and from any point, transform coordinates, rotate bearings and add point by bearing, distance or intersection. Includes stadia reduction and listing coordinates of points.
IBM PC, XT, PCjr ☐ 96 KB req. ☐ Copies sold: 6,000 since 1983 ☐ Cost: $200

AMERICAN SMALL BUSINESS COMPUTERS, INC.

☐ ProDesign II

Reviewed Apr 1986 p. 194.

CAD system for drafting applications. Supports mice and digitizing pads. Includes two type fonts which can be modified, editing features, zoom and scaling. Combines two drawings into one. Saves sections or entire drawing.
IBM PC ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $299

APPLIED SOFTWARE TECH, INC.

☐ Architectural Tablet Menu

Serves architects from initial design through contract document. Includes step wall editing, predefined design blocks, user accessible blocks, proportional spacing, predefined layers and standard drafting functions and drawing setups.
IBM PC ☐ Cost: $395

☐ CLAM (Computerized Level Analysis Management)

For use by hydraulics engineers in study and monitoring of fluid flow in open channels. Data transfer routines, level to flow conversion, graphic level and flow conversion, graphic level and flow charting, graphic level and flow plotting and flow averaging and compiling.
IBM PC ☐ Cost: $1,750

ARCHITECTURAL COMPUTER SOFTWARE

☐ Architect's Business Manager

Job cost/AR, hourly payroll, AP and GL. Computes client billings using time and materials, fixed fee, multiple of DPE and percent completion formats. Features report library, custom and special financial reports, comparison of actual vs. budget, elimination of multiple position and out of balance entries.
IBM PC ☐ 128 KB req. ☐ Copies sold: 120 since 1980 ☐ Cost: $2,500-$3,200

AUTO-TROL TECHNOLOGY CORP.

☐ Electrical

Designs and drafts electrical construction documents used in industrial and commercial building design. Develops power, lighting, fire and communications systems on floor plans created with Auto-trol's PLAN.
IBM PC, AT

☐ HVAC

Creates heating, ventilating and air conditioning construction documents used in industrial and commercial building design. Develops ductwork systems using dimensioned fittings built to SMACNA standards. Creates piping system for hot, chill and domestic water, gas, sprinkler, waste and vent lines.
IBM PC, AT

☐ Illustrator

Architectural rendering design system that produces 70 symbols for creating presentation renderings of plan and evaluation views. Figure manipulation capabilities enable user to create symbols.
IBM PC, AT ☐ 1,000 KB req.

☐ Layout

Commercial and industrial building architectural layout system. Works together with Auto-trol's HVAC, PLAN, ELECTRICAL and A-FRAME. Produces workstation drawings, facility layouts and BOMs.
IBM PC, AT

☐ Plan

Architectural drafting and documention system that creates floor plans, reflected ceiling plans and door and finish schedules. Provides design symbols such as doors, windows, electrical symbols and bathroom fixtures.
IBM PC, AT ☐ 1,000 KB req.

☐ Series 5000 Advanced Graphics Software for Architecture, Engineering and Construction

Provides 3D geometry, random access with inplace updating capability, user-definable units and single or double precision data representation. Drawing tools include lines, line terminators, geometric figures, irregular curves, symbol creation, display, drawing manipulation, text and text manipulation, cross-hatching, dimensioning, layering, editing and interactive feedback.
IBM PC, AT ☐ 1,000 KB req. ☐ Copies sold: 500 since 1982

AUTOMATE COMPUTER SOFTWARE

☐ Professional Manager

Includes GL, AP, AR, payroll, job cost with billing, and project management. Provides report writing capabilities. Canadian version also available. Spreadsheet and business graphics included.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 81 since 1983 ☐ Cost: $3,995-$6,995

BIOCCA ENGINEERING

☐ CECSI (Civil Engineer's Computation System I)

Version 1 requires that coordinates be plotted for each calculation. Version 2 allows coordinates to be plotted once and then stored and retrieved as needed. Functions include random traverse, subdivision, horizontal curve staking, profile grade and volume computations and triangle and curve solutions.
IBM PC ☐ 128-192 KB req. ☐ Cost: $295-$595

BRACEWELL ENGINEERING, INC.

☐ SWRMDL

Models sewer or storm system data, computes flows and capacities, sizes sewers to estimated loads, and estimates facility costs. Lotus spreadsheet templates handle data input. FORTRAN program handles flow model, system model, flow data, design, and cost estimating.
IBM PC, AT, XT ☐ 256 KB req. ☐ Copies sold: 6 since 1985 ☐ Cost: $495

BRILLIG DATA SYSTEMS, INC.

☐ PMStar - Project Management Program

Data base lists clients, projects, consulting, vendors, employee rate schedules, employees, phase codes and work codes. Invoicing formats are flexible. Allows user-defined phase and work codes. Permits customized invoices and report formats.
IBM PC ☐ 64 KB req. ☐ Copies sold: 35 since 1981 ☐ Cost: $1,490

BST CONSULTANTS, INC.

☐ Management Information System

Integrated, multi-user business system for design firms. Includes on-line update, display and report generation, multi-period processing and matrix reporting with project budgeting, automatic revenue calculation and integrated billing. Full password and file security.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 65 since 1980 ☐ Cost: $8,000 and up

CASCADE GRAPHICS SYSTEMS

☐ Associate

Builds multi-dimensional model, views it from different angles, changes its size, eliminates hidden lines, saves and prints the drawing.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 135 since 1985 ☐ Cost: $3,000

C & C ENGINEERING

☐ Earthwork

Uses average end area method to compute earthwork volumes from station and cross-section data. Input details up to 200 cross sections per job, up to 40 existing ground and up to 40 finish grade points per cross section. Disk can hold up to ten jobs with job names up to 30 characters.
IBM PC ☐ 64 KB req. ☐ Copies sold: 40 since 1983 ☐ Cost: $350-$550

☐ EARTH3

Computes earthwork volumes for station and cross section data. Input details 1,000 cross sections per job. Up to 100 existing ground and 100 final grade points per cross section. Job saved to data disk. Inputs from digitzer pad or keyboard.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 4 since 1986 ☐ Cost: $1,500

☐ Pro-Surv

Surveys use traverse-angle, bearing, azimuth, open, closed, secondary loop, screen plotted as entered. Provides horizontal curves computing parameters or points. Utilizes graphical display prompts. Computed points may be on curves. Allows for saving and loading of files and job names that may be 30 characters long.
IBM PC ☐ 192 KB req. ☐ Copies sold: 40 since 1984 ☐ Cost: $875-$1,200

☐ Topo

Computes coordinates/elevations from field data, interpolates even contours and plots points to scale. Holds 5,000 points. Enters point numbers and coordinates from disk to keyboard. Computes X,Y,Z of contour points between designated points for desired intervals.
IBM PC ☐ 64 KB req. ☐ Copies sold: 8 since 1984 ☐ Cost: $325-$400

CECOMP

☐ Micro Hardy Cross

Solves networks of up to 4,000 pipes. Draws loop profiles and contour maps.
IBM PC

CIVILSOFT

(division of The Technical Group, Inc.)

☐ COGO-PC

Set of 140 commands allows calculations of tract maps, subdivisions or boundary maps. Commands include open and close, traverse balancing, rotating and translating figures, intersecting figures and defining spirals. Includes pen plotting, scaling, rotating and annotation.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $2,190

☐ COGO-80/86

Coordinate geometry program for civil engineers and land surveyors for subdivision mapping, tract maps and field surveys. Double-precision math with 15-digit accuracy. Storage capacity of 6,000 coordinate points. Produces pen and screen plots.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 500 since 1982 ☐ Cost: $890

☐ **Contour**
Combines random northing, easting, elevation or x, y, z data and point descriptions for each point and creates contour maps. Options include title, point plot, point descriptions, contours grid lines, heavy contour lines at specified intervals, defined contour intervals, user-defined scales and borders.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $1,290

☐ **Earthwk**
Calculates cut and fill for cross sections along alignments. Makes 60 centerline stations in any run each with 50 x-y coordinate pairs for describing existing or proposed profiles. Adds or deletes cross sections at any point. Expresses results in English or metric units.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $540

☐ **HEC-1**
Flood hydrograph program developed by U.S. Army Corps of Engineers. Simulates surface runoff from river basins based upon model components such as stream network, runoff characteristics, and river and reservoir routing.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $200

☐ **HEC-2**
Water surface profile program developed by U.S. Army Corps of Engineers. Calculates water surface profiles for defined channels including losses due to bridges, expansions and contractions in each channel. Analyzes sub- or supercritical flow conditions.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 150 since 1985 ☐ Cost: $200

☐ **NCH**
Hydraulics program which calculates hydraulic characteristics of natural channel with any arbitrary cross section. Solves for unknown discharge, depth or bottom slope given any 2 of 3 characteristics. Optionally displays table of stage-discharge area or table of specific energy vs. depth.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 150 since 1982 ☐ Cost: $290

☐ **Resvoir**
Routes hydrograph through reservoir using principle of conservation of mass. Accepts as input inflow hydrograph, stage-storage and stage-discharge relationships of reservoir and generates inflow hydrograph.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 25 since 1985 ☐ Cost: $290

☐ **Retwall**
Allows engineers to design and check retaining wall structures. Calculates base and stem structure. Solves for minimum base width. Accepts and defines nearly any combination of loading conditions.
IBM PC, XT ☐ 512 KB req. ☐ Copies sold: 75 since 1984 ☐ Cost: $290

☐ **SCSHYD (Soil Conservation Service Hydrograph Program)**
Calculates discharge hydrographs for watersheds as described in SCS National Engineering Handbook Section 4. Uses peak rate factor of 484 or user-defined factor, 6 standard rainfall distributions and user-defined distributions. Outputs list of input, peak discharge, time of peak and incremental/total runoff.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 75 since 1984 ☐ Cost: $290

☐ **Sewer**
Models existing or proposed sanitary sewage collection systems. Studies entire system or portion to assist in expansion or improvement plans. Uses Manning's or Hazen-Williams coefficients. Allows for 800 reaches and 500 manholes and can label 200 manholes with 20-character descriptions.
IBM PC, XT ☐ 512 KB req. ☐ Copies sold: 150 since 1984 ☐ Cost: $590

☐ **Sprink**
Performs hydraulic analysis of fire sprinkler systems and fire hydrant and hose reel installations. Determines water flow in and pressure drop through each pipe. Handles networks with simple end, side or center fed configurations or looped and gridded systems.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 25 since 1986 ☐ Cost: $790

☐ **Storm**
Storm drain analysis. Calculates hydraulic grade line elevations of proposed or existing systems given physical characteristics and discharge. Calculates friction, minor and junction losses. Analyzes junction flows and calculates size of storm drain laterals based on maximum flows.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 275 since 1982 ☐ Cost: $590

☐ **TR-20**
Assists engineer in hydrologic evaluation of flood events for use in analyzing water resource projects. Calculates direct runoff resulting from any synthetic or natural rainstorm. Develops flood hydrographs from runoff and routes flow through stream channels and reservoirs.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 75 since 1985 ☐ Cost: $200

☐ **Water**
Simulates city or municipality water distribution systems. Simulates networks of pipes, pumps as sources, booster pumps, pressure reducing and pressure sustaining valves and check valves. Handles up to 750 pipes/nodes. PC version can support 8087 math co-processor.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $790

CIVILWARE

☐ **Cogo w/plot**
Coordinate geometry and graphics plotting system.
IBM PC ☐ Cost: $495

☐ **Earthwork w/plot**
IBM PC ☐ Cost: $295

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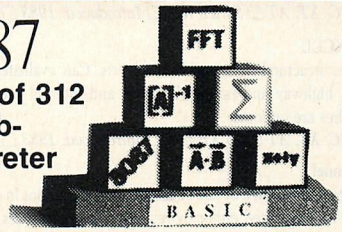
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Enters field notes directly into computer, which are then coordinated by the system. Uses COGO functions such as traverse, inverse, BBI, DDI, BDI, lot summary, area, rotation, translation, side shot, offset, radial stake-out or list coordinates with descriptions.
IBM PC ☐ 48 KB req. ☐ Copies sold: 50 since 1982 ☐ Cost: $500

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☐ ArtLeaky
Calculates steady-state drawdown in leaky artesian aquifer, with fully penetrating wells without water released from storage in aquitard and constant discharge conditions. Uses Jacob's formulations. Up to nine wells. Prints results of computed drawdown in grid format. Includes contour plot.
IBM PC, XT, AT ☐ 48 KB req. ☐ Introduced: 1985 ☐ $200

☐ BFTHK
Computes thickness of flat face blind flanges. Utilizing various design stress limits and line pressures in accordance with ASME Boiler and Pressure Vessel Code.
IBM PC, XT, AT ☐ 41 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ BONDJT
Designs bonding jumpers across pipe joints for electrical continuity. Electrical resistance is directly proportional to length of conductor and is inversely proportional to area in cross-section. Generates a range of values of from 10 to 50 percent.
IBM PC, XT, AT ☐ 68 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ BOUSQ - Boussinesq's Equation
Determines live loads based upon Newmark's Integration of Boussinesq's Equation. Analyzes railroad loadings per area requirements. Tracks may be single, double or multiple. Accommodates reactions due to superimposed loads, either live or static, acting upon one or more equal rectangular areas.
IBM PC, XT, AT ☐ 58 KB req. ☐ Introduced: 1983 ☐ $100

☐ BOXCUL
Handles structural design of box culverts. Can evaluate earthloads, highway and railway liveloads and internal pressure. Haunches are optional.
IBM PC, XT, AT ☐ 93 KB req. ☐ Introduced: 1983 ☐ $250

☐ Channel
Handles profile entry by use of coordinates. Variations in depth can be accomplished either by revising end coordinates or by adding new end coordinates. Because roughness and depth may vary widely over parts of such a channel, breaking channel up into separate elements has been included.
IBM PC, XT, AT ☐ 58 KB req. ☐ Introduced: 1983 ☐ Cost: $100

☐ Cones
Develops layout patterns in flat for concentric and eccentric cones. Concentric cones may be laid out by radii or by offsets, and eccentric cones by offsets only.
IBM PC, XT, AT ☐ 58 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ CRPLT - Crotch Plates
Design of crotch plates based on AWWA M11, SEC 19, NOMOGRAPH METHOD. Computes size of required plate for various thickness and finished plate weight and waste values. Referenced also to reprint from Journal AWWA 1955, design of wye branches for steel pipe.
IBM PC, XT, AT ☐ 56 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ Culvert
Analysis of 11 inlet types of concrete pipe culverts and corrugated metal pipe. Outputs pipe type and size, type of inlet, flow quantity, velocity, headwater and tailwater depths, critical and normal depths of flow, approach velocity, head loss and Manning's roughness coefficient.
IBM PC, XT, AT ☐ 40 KB req. ☐ Introduced: 1985 ☐ Cost: $200

☐ C300 Design
Designs steel cylinder reinforced concrete pressure pipe according to AWWA standard C300. Olander's bedding is used to determine moments and thrusts arising from water weight, pipe weight, soil weight and live loads. Design calculations are based on strength method of analysis.
IBM PC, XT, AT ☐ 68 KB req. ☐ Introduced: 1983 ☐ Cost: $250

☐ C301A Design
Examines steel cylinder type prestressed concrete pressure pipes also referred to as SP-5 pipe, based on the Cubic Parabola Design Method. Design curves are based on test results relating to final stress in the core. Design curves must be customized to each user's statistical test data for proper results.
IBM PC, XT, AT ☐ 75 KB req. ☐ Introduced: 1983 ☐ Cost: $150

☐ C301B Design
Examines steel cylinder type prestressed concrete pressure pipe based on Appendix B stress analysis method. Tries various allowable concrete strengths before it increments wire sizes. Using Olander bedding coefficients, program computes required coefficients for any bedding angle up to 180 degrees.
IBM PC, XT ☐ 103 KB req. ☐ Introduced: 1983 ☐ Cost: $150

☐ C302 Design
Designs AWWA C3032 noncylinder type reinforced concrete pressure pipes. Uses Olander's bedding to determine moments and thrusts arising from water weight, pipe weight, soil weight and live loads. Allows entering of special load coefficients if designer chooses not to use Olander's bedding.
IBM PC, XT, AT ☐ 93 KB req. ☐ Introduced: 1983 ☐ Cost: $200

☐ C303 Design
Handles reinforced concrete water pipe/steel cylinder type, pretensioned. Contains three options which include steel area computation, existing design analysis and cover loads and E' values computation. Permits user to select various soil coefficients and weights, and Spangler bedding coefficients.
IBM PC, XT, AT ☐ 56 KB req. ☐ Introduced: 1983 ☐ Cost: $150

☐ D Load - Steel Areas
Computes steel for elliptical cage, double circular and inner circular with outer elliptical cage for D-load type pipes.
IBM PC, XT, AT ☐ 72 KB req. ☐ Introduced: 1983 ☐ Cost: $100

☐ Elbow
Evaluates fabrication dimensions for mitered elbows of various designs. Computes combined angle if horizontal and slope angles for each leg are entered. Any elbow can be designed by entering horizontal and setting slopes to zero.
IBM PC, XT, AT ☐ 71 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ EqPipe
Computes equivalent diameter for single pipe replacing system of parallel and/or series pipes. Single pipe transports same total flow rate for same head difference between connecting junctions. Up to 20 pipe units.
IBM PC, XT, AT ☐ 53 KB req. ☐ Introduced: 1985 ☐ Cost: $100

☐ FLGTHK - Flange Designs
Computes thickness of flat flanges. Uses various design stress limits and line pressure.
IBM PC, XT, AT ☐ 41 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ Gasket
Can be used to design ring gaskets used on USBR R2 type joints (Carnegie spigots) and USBR R4 concrete joints. Has an option to size groove ring for R4 type joints.
IBM PC, XT, AT ☐ 96 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ Hammer
For simple or complicated networks of up to 140 closed circular pipes. Calculates heads and flows for each time increment. Shows time history at end of transient along with maximum and minimum heads and times of occurrence. Available with arithmetic processor.
IBM PC, XT, AT ☐ 105 KB req. ☐ Cost: $275

☐ Hantush
Calculates unsteady-state drawdown in leaky artesian aquifer, with fully penetrating wells without water released from storage in aquitard and constant discharge conditions. Uses Hantush's formulations. Up to nine wells. Prints results of computed drawdown in grid format. Includes contour plot.
IBM PC, XT, AT ☐ 51 KB req. ☐ Introduced: 1985 ☐ Cost: $200

☐ HBolts - Harness Bolts Design
Stress analysis package for bolts used for harness pipe joints. Selects coarse-thread series or fine-thread series such as ASTM A-307 GRADE 1 or ASTM A-325 GRADE 5. User can enter data for any bolt desired. Computes number of bolts required.
IBM PC, XT, AT ☐ 52 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ HSulf - Hydrogen Sulfide Corrosion
Evaluates effects of hydrogen sulfide corrosion on concrete pipes. Outputs initial and final sulfide concentration of life expectancy as well as velocity, time of passage, quantity and depth of flow.
IBM PC, XT, AT ☐ 74 KB req. ☐ Introduced: 1983 ☐ Cost: $250

☐ Inflect
Computes transmissivity and storage coefficient; and leakance for leaky, isotropic, homogeneous aquifer of infinite areal extent under constant discharge conditions. Interactive prompts. Results determined by Hantush's Inflection Point Method. Outputs listing of entire input valves and computed results.
IBM PC, XT, AT ☐ 52 KB req. ☐ Introduced: 1985 ☐ Cost: $200

☐ Laypipe
Determines stalking information and laying schedules for pipelines, stations and elevations of each pipe in pipeline. Reports all elbows on project. Prints pipeline laying schedule.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $950

☐ Loads - External Loadings
Uses Marston's method to compute external trench earth loads on rigid conduits. Determines loads for various heights of cover and transition widths and loads. Calculates positive projecting earth loads on rigid conduits and transition width for each height of cover.
IBM PC, XT ☐ 60 KB req. ☐ Introduced: 1983 ☐ Cost: $125

☐ MOFI - Moment of Inertia
Determines areas, centers of gravity, moment of inertia and section moduli for irregular sections such as prestressed T-beams, L-beams and hollow core slabs. Sections may be all linear elements defined by coordinate points. Elliptical and circular elements, slots with circular elements and with circular ends are included.
IBM PC, XT, AT ☐ 58 KB req. ☐ Introduced: 1983 ☐ Cost: $100

☐ M11 Pipe
Computes steel pipe wall thickness based on the ID or OD of the pipe. Prompts for minimum, maximum and increment of pressure. Allows type steel to be selected from standard menu or input of any steel to be entered and minimum yield. Computes appropriate cylinder weights and collapses pressures.
IBM PC, XT, AT ☐ 63 KB req. ☐ Introduced: 1983 ☐ Cost: $100

☐ Net 55, 400, 750, 1500
Handles any type of pipe system configuration. Allows any number of storage tanks, pumps, valves, meters and fittings. Pumps are described by useful power or by inputing head-flow data. Detects and identifies user errors. Handles extended period simulations.
IBM PC, XT, AT ☐ 384 (Network 750); 640 (Network 1500) KB req. ☐ Introduced: 1983 ☐ Cost: $150-$875

☐ NETPKG
Includes NET 750, EqPipe, Hammer and Size P. Calculates transients, hydraulic pipe sizes and equivalent pipe sizes for parallel and series pipes.
IBM PC, XT, AT ☐ 384 KB req. ☐ Cost: $840

☐ **NEUPAN - Neutral Point Analysis**
Applications include study of redistribution of stresses after corrosion by Hydrogen Sulfide, study of pipes with concrete bedding to act integrally with the pipe wall and study of modified circular pipes with flat based flattened invert as proposed by Heger.
IBM PC, XT, AT ☐ 73 KB req. ☐ Introduced: 1983 ☐ Cost: $200

☐ **Offset**
Computes offset stations and equations for pipelines that are to run parallel to a survey line.
IBM PC, XT, AT ☐ 67 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ **OLANDR - Olander Coefficients**
Computes coefficients using loading pattern in design of prestressed pipe and C361 pipe. For any given angle of bedding determines moments, thrusts and shears for any point on wall due to pipe weight, water weight and cover loads.
IBM PC, XT, AT ☐ 48 KB req. ☐ Introduced: 1983 ☐ Cost: $125

☐ **Outlet**
Designs outlet reinforcement per AWWA M11 Steel Pipe guidelines. Advises if run pipe or outlet is not thick enough, and notifies user of maximum pressure allowed if no reinforcement is required. Uses wrapper if necessary or advises user if crotch plate is required. Gives reinforcement collar size and weight and overall size.
IBM PC, XT, AT ☐ 53 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ **Paris - Paris Coefficients**
Computes coefficients and resulting moments. Provides pipe weight, water weight, variable width vertical loadings and bedding reactions and lateral loads that are variable in width and magnitude. Output may be in coefficient form. Actual pipe sizes, wall thickness and cover loads may also be entered.
IBM PC, XT, AT ☐ 71 KB req. ☐ Introduced: 1983 ☐ Cost: $150

☐ **PCPKG**
Includes C301A-B, C303, BONDJT, HBOLTS, Loads, Size P and Thrust. Hydraulically sizes pipes, calculates external loads, performs structural design for prestressed pipe types A and B, and for pretensioned pipe. Designs bonding jumpers. Determines thrust at bends and number of bolts for harnessing.
IBM PC, XT, AT ☐ 103 KB req. ☐ Cost: $660

☐ **RCPPKG**
Hydraulically sizes pipes and calculates external loads and steel areas for various types of concrete pipe. Designs concrete joints and establishes proper gasket requirements. Includes C302, RCPULT, DLoad, NEUPAN, Gasket, Loads, REVR4, Size P, Thrust and USBRJT.
IBM PC, XT, AT ☐ 93 KB req. ☐ Cost: $820

☐ **RCPULT**
Inputs internal pressure and computes resulting area of reinforcement for RCP type of pipe such as ASTM C361 C76. Designer can use various concrete strengths, steel stress, and covers to centerline of reinforcement. Calculates compression and tension.
IBM PC, XT, AT ☐ 67 KB req. ☐ Introduced: 1983 ☐ Cost: $100

☐ **REVR4**
Checking system for type R4 joint designs for concrete pipe. Modifies USBRJT with added feature of evaluating use of available tolerances based upon stretched gasket diameter. Flags designs that have poor tolerance ranges.
IBM PC, XT, AT ☐ 65 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ **Size B - Hydraulics**
Sizes box culverts for full or partial flow conditions. Users can enter the required head in feet of PSI. Quantity can be entered in cubic feet per second or in millions of gallons per day. Manning's coefficient is entered from a table of commonly used values. For full flow conditions the length of the line is required. Haunch data may be included.
IBM PC, XT, AT ☐ 61 KB req. ☐ Introduced: 1983 ☐ Cost: $100

☐ **Size E - Hydraulics**
Hydraulic sizing of elliptical pipe for both horizontal and vertical, full or partial flow conditions. Options try new slopes, and/or ratios and modifications to control relationships.
IBM PC, XT, AT ☐ 67 KB req. ☐ Introduced: 1983 ☐ Cost: $100

☐ **Size P - Hydraulics**
Sizes circular pipes. Permits entry of required head in feet of PSI and required quantity in cubic feet per second or millions of gallons per day. Manning's coefficient can be selected from a table of commonly used values. Options try new slopes, flow and ratios and new diameters.
IBM PC, XT, AT ☐ 56 KB req. ☐ Introduced: 1983 ☐ Cost: $100

☐ **Size T**
Analyzes trapezoidal and rectangular canals and channels based upon Manning's formula. To size, user enters slope and flow and cross-sectional characteristics desired. Side slope, maximum allowable depth or maximum allowable width are among options allowed. Once the canal shape and size is determined new flows may be entered.
IBM PC, XT, AT ☐ 62 KB req. ☐ Introduced: 1983 ☐ Cost: $100

☐ **Span**
Calculates deflection at center of span and band radius and band deflection angle. Moment and stress in pipe wall are also computed. If pipe is cement mortar lined, size of lining crack in inches per foot is determined. Enters trial lengths for analysis.
IBM PC, XT, AT ☐ 43 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ **STLPKG**
Hydraulically sizes and designs bonding jumpers, outlet reinforcement, flanges, weight coating, and fabricated elbow dimensions and reducers. Analyzes spans, thrusts at bends and harnessing bolts. Includes M11PIPE, BFTHK, BONDJT, Cones, CRPLT, Elbow, FLGTHK, HBolts, Outlet, Size P, Span, Thrust and WTCoat.
IBM PC, XT, AT ☐ 71 KB req. ☐ Cost: $600

☐ **Stress**
Designs concrete beams and slabs or walls with one-way reinforcement. Nominal axial loads are permitted. Required tensile reinforcement including size and spacing is determined. Reinforcement may be hot rolled or W-series mesh.
IBM PC, XT, AT ☐ 65 KB req. ☐ Introduced: 1983 ☐ Cost: $100

☐ **Theis**
Computes unsteady-state drawdown for confined aquifer. Uses principle of superposition. Allows up to 20 wells.
IBM PC, XT, AT ☐ Cost: $200

☐ **Thrust**
Computes thrust values of pipe at turns and bulkhead types of conditions. Computes distance for each gauge of various cylinder gauges for pretensioned cylinder pipe. Stations are computed where each gauge should change due to thrust conditions. Designed for when harnessed or welded joints are required.
IBM PC, XT, AT ☐ 62 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ **Twolay**
Calculates drawdown for each layer in two-layer leaky aquifer system of infinite areal extent which is penetrated by well of infinitesimal diameter and under constant discharge conditions. Uses Hantush's formulations. Prints results of computed drawdown in grid format.
IBM PC, XT, AT ☐ 49 KB req. ☐ Introduced: 1985 ☐ Cost: $200

☐ **Ultima**
Required tensile steel reinforcement, including size and spacing of steel, is determined for wall or beam of given dimensions. Reinforcement may be either W-series mesh or hot rolled rod.
IBM PC, XT, AT ☐ 65 KB req. ☐ Introduced: 1983 ☐ Cost: $100

☐ **Unconf**
Computes unsteady-state drawdown by superposition, using linearized version of governing P.D.E. for unconfined aquifer. Allows up to 20 wells.
IBM PC, XT, AT ☐ Cost: $200

☐ **USBRJT - USBR Pipe Joint Designs**
Checks concrete pipe joints, including the R4 type. Revises data as initially entered and facilities investigation of new joint designs. Data is entered in sequence listed and on form required by USBR for submittal.
IBM PC, XT, AT ☐ 62 KB req. ☐ Introduced: 1983 ☐ Cost: $50

☐ **WTCoat**
Determines thickness of weight coat required on pipe to produce a selected amount of negative buoyancy in either fresh water or sea water. Users can enter any other specific gravity if desired. Determines river weights and spacing of same if desired.
IBM PC, XT, AT ☐ 44 KB req. ☐ Introduced: 1983 ☐ Cost: $50

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☐ **CAP (Computer Aided Planning)**
Aids facility managers, interior designers and office furniture dealers in planning and management of contract furnishings. Generates plan drawings, elevations, specifications, reports and order forms through electronic catalog data bases. LAN and telecommunications capabilities.
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Analyzes beams with continuous and lumped inertias.
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☐ **General Column Buckling**
Defines and analyzes columns of variable sections for lowest failure loads.
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Views 3D bodies from perspective, rotated and scaled views.
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Computes displacements or mode shapes for joint loads or inertia.
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Provides structural analysis of 3D frame structures.
IBM PC ☐ 64-256 KB req. ☐ Introduced: 1983 ☐ Cost: $375-$760

CONCAP COMPUTING SYSTEMS

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Interactive programs for civil engineer/surveyor and public works department. Features traverse geometry that interfaces with subdivision/road plotting routines, traverse adjustments, topo reductions, earthwork (site & roads) and drawing interface with AutoCAD.
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CONTROL DATA CORP.

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IBM XT, AT, PC ☐ 512 KB req. ☐ Cost: $4,450

CREATIVE SOFTWARE SYSTEMS

☐ **PCMS (Project Control Management System)**
Multi-company financial accounting for architectural/engineering firms. Controls costs/fees/expenses by project, phase, task, department and employee. Maintains costs/billings histories. Produces invoices. Consolidated P&L. Includes project costing, AR, AP, payroll, GL, scheduling and PERT.
IBM PC ☐ Introduced: 1980 ☐ Cost: $2,500-$20,000

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☐ **CAPCALC 85**
Calculates signalized and unsignalized intersection capabilities using procedures specified in 1985 Highway Capacity Manual. Displays/prints inputs, intermediate and final results in camera-ready form. Prints intersection diagrams showing lane group volumes, turning movements and number of lanes per lane group.
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Simulates peak or 24-hour traffic flow over complex roadway networks. Origin-destination trip table may be entered or simulated. Estimated traffic volumes are directional. Accepts up to 100 intersections for turning movement analysis.
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Integrated job cost accounting for architects and engineers. Conforms to AIA accounting standards. Tracks information for life of project. Prints summary or detail reports. Includes job cost, AR, AP, payroll and GL modules.
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Estimates jobs. Length and Count Probes accept any architectural or engineering scale. Divides any job into 72 phases. Calculates the effect of changes in material specifications and reflects them in bid. Conforms to traditional takeoff methods. Allows five labor conditions.
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Uses finite element method to determine potential flow and head functions at nodes of anisotropic, nonhomogeneous, saturated porous media. Constructs flow and equipotential line contours. Requires that media be idealized into triangular elements and principal permeabilities and their orientation specified for all elements.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10 since 1982 ☐ Cost: $150

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Analyzes pressure flow in culvert or determines type of flow in culvert.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $59

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Calculates normal depth, critical depth and rating curve for flow in circular channel.
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Provides preliminary estimate of volume stormwater detention for particular drainage area. Calculates total runoff volume and peak rate of runoff from drainage area.
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Produces cross-section plots of HEC-2 data. Automatic scaling. Zooms in on any part of cross-section including left or right overbank and channel.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $295

☐ **HECsheet**
Engineering data entry program for HEC-1 and HEC-2.
IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $195

☐ **Hydraulics Library**
Performs trapezoidal channel, circular channel, pipe culvert, and box culvert analysis and detention basin sizing.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $195

☐ **Pipe Culvert Analysis**
Calculates normal depth, critical depth and rating curve for flow in pipe culverts.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $59

☐ **Trapezoidal Channel Analysis**
Calculates normal depth, critical depth and rating curve for flow in trapezoidal channel.
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DYNACOMP, INC.

☐ **Heat Loss**
Calculates loss of heat through roof, walls and doors. Subtracts windows, doors and lower areas. Calculates heat loss for each room and sums up building totals. Stores and retrieves data, reviews and changes individual rooms or room elements and prints out results.
IBM PC ☐ 32 KB req. ☐ Cost: $40

☐ **Pipeline Pressure Loss**
Calculates pressure-head loss in plumbing and heating systems. Selects longest path and calculates its corresponding head loss. Operates based on user specified material such as copper, PVC or schedule-40 steel, maximum and minimum unit head loss, initial flow and number of elbows.
IBM PC ☐ 48 KB req. ☐ Cost: $40

☐ **Section Properties**
Calculates strength and stiffness properties of various structural cross sections to determine their capability to withstand axial, bending or torsional loads. Designed to solve for cross section area, location of section centroid, moment of inertia, section modules and radius of gyration.
IBM PC ☐ 24 KB req. ☐ Cost: $40-$44

ECOM ASSOCIATES, INC.

☐ **A2CE Accounting for Architects and Consulting Engineers**
Handles single entry accounting and audit trail. Provides help key and security password. Reports include job costing, invoicing, payables and financial status for any time period.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 300 since 1976 ☐ Cost: $1,550-$4,500; $950 per module

ECOTOPE, INC.

☐ **Suncode PC**
Provides hourly simulation for multiple zone building. Performs thermal analysis for heating, cooling, venting loads, and air flows, between zones. Schedules variables. Models active or passive solar and convention building design. Provides graphics capabilities.
IBM PC ☐ 256 KB req. ☐ Copies sold: 12 since 1985 ☐ Cost: $650

☐ **Sunday**
Determines heating or cooling loads. Accounts for solar glazing, thermal mass, internal gains, building heat loss, and nighttime setback. Performs sensitivity studies of direct gain solar, superinsulated or conventional buildings.
IBM PC ☐ 64 KB req. ☐ Copies sold: 35 since 1984 ☐ Cost: $75-$500

ELITE SOFTWARE DEVELOPMENT, INC.

☐ **Life Cycle Economics Program**
Prepares an economic analysis using present worth method to determine lowest cost among project alternatives.
IBM PC ☐ 48 KB req. ☐ Copies sold: 895 since 1983 ☐ Cost: $295

ENGINEERING DATA SYSTEMS CORP.

☐ **Roadcalc**
Calculates centerline elevations. Computes cut and fill volumes. Draws cross-sections. Field data reduction, design template definition, and horizontal/vertical alignment selection functions. Station equation input and volume computations.
IBM PC, XT, AT, PCjr

ENGINEERING DESIGN AUTOMATION

(division of SSD, Inc.)

☐ **AutoPipe**
Interactive pipe stress analysis and design offers multi-windowing, interactive graphics and built-in property tables to analyze and review results. Link to AutoCAD provides access to drawing generation. Performs non-linear and dynamic analyses.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 40 since 1985 ☐ Cost: $5,900

ENGINEERING SERVICES

☐ **AUTOCOGO**
Provides Level I interactive COGO support for AutoCAD.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $500

☐ **COGOAID**
COGO-AutoCAD interface drafting system.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $495

☐ **CSEEP**
Confined seepage analysis. Evaluates 2D flow through porous media under confined conditions. Allows for irregularly spaced mesh intervals. Calculates potentials throughout mesh and seepage flow rates across user-specified section.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $249

☐ **Cut and Fill - AEA Method**
Performs earthwork quantity takeoffs using average-end-area method. Calculates areas of cut and fill for each station and volumes of cut and fill between stations and cumulatively. Samples up to 500 stations, each with up to 100 X-Y coordinate pairs.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $219

☐ **GEOCOGO**
Geodesy COGO coordinate geometry system.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $500

☐ **GRAMP**
Groundwater recharge and mounding program. Uses Hantush's equation and numerical integration. Input consists of basin geometry, water table depth, fillable porosity, arrival rate and average horizontal permeability. Outputs table of groundwater mound tables above both water table and impermeable layer for user-specified range of time and locations.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $249

☐ **HEC-1 and HEC-2/Hard Disk**
U.S. Army Corps of Engineers developed flood hydrograph program.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $200

☐ **HYDRP**
Hydraulic rating system. Determines hydraulic performance of water control structures and channels. Rates sharp and broad crested weirs, circular, elliptical, arch and box culverts, trapezoidal and parabolic channels, risers and orifices and gates. Determines headwater elevations for each flow.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $249

☐ **HYNET**
Storm sewer/channel hydraulics system.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $269

☐ **I-CPR**
Inter-connected pond routing model. Constructs pond network configurations in any fashion with flow from and between ponds being dependent on type of outfall and headwater and tailwater conditions. Evaluates time variable tailwater conditions, submersence, flow reversal, multiple outfalls and local inflow for individual ponds.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $275

☐ **ISSAD**
Interactive storm sewer analysis and design. Calculates hydraulic grade line at each sewer network inlet. Handles circular, elliptical, arch and box sections. Considers sub- and super-critical flow regimes and open channel partially full and pressure flows.
IBM PC, XT, AT ☐ 256 KB req.

☐ **ISSAP**
Interactive slope stability analysis. Evaluates natural and man-made slopes. Uses Bishop method. Handles submergence and earthquake loading.
IBM PC, XT, AT ☐ 256 KB req.

☐ **Kentucky Pipes (900 Pipe Network Analysis)**
Simulates steady-state pressure and flow in pipe distribution systems designed to transport liquids.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $225

☐ **OVRFL-FEM**
Uses finite element method to determine stormwater runoff relationships for overland flow planes. Uses kinematic wave theory, catchment slopes and lengths, roughness coefficients and SCS curve numbers. Calculates hydrographs for multiple catchments in given run. Forms single or composite hydrographs and routes through lake/pond.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $249

☐ **PIPEVIEW - Kentucky Pipes Pre and Post Processor**
Plotting program for displaying pipe network configurations and results of analysis of pressure and flow in pipe distribution systems.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $275

☐ **RPP**
Results presentation program for Engineering Services' Kpipe and pipeview. Generates tables and plots of results of pipe network studies including time simulations and regular simulations of various conditions.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $150

☐ **SBUH (Santa Barbara Urban Hydrograph) System**
Simulates up to 200 sub-basins simultaneously. Calculates composite hydrographs. Bases rainfall on nondimensional mass curves. Uses SCS (Soil Conservation Service) curve number method for infiltration and incorporates directly connected impervious areas.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $219

☐ **SCS Unit Hydrograph System**
Calculates up to 100 hydrographs for small watersheds. Calculates rainfall excess. Obtains runoff throughout storm duration.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $249

☐ **TR-20/Hard Disk**
Performs hydrologic evaluation of flood events. Developed by U.S. Army Corps of Engineers.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $690

ENGINEERING SOFTWARE

☐ **Hydronet**
Analyzes hydraulic distribution systems for all fluids. Solves steady-state flows and head levels throughout pipe network as large as 1,250 pipes, 30 pumps and 30 fixed head conditions. Units in English or SI. Uses Hazen-Williams or Darcy-Wiesbach equations. Supports 8087 chip.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $250

ESDU INTERNATIONAL, INC.
(subsidiary of International Thomson Organization)

☐ **Strenth of Bonded Joints in Tension**
Obtains elastic shear and peel stresses in adhesive of balanced or unbalanced bonded single- or multi-step lap joint with up to six steps which may differ in lengths and thicknesses.
IBM PC, XT, AT ☐ 192 KB req.

FACILITIES MANAGEMENT SYSTEMS, INC.

☐ **SpaceTracker**
Analyzes space allocation and costs. Combines data and graphics. Forecasts future needs. Stores core data. Tracks staffing and workstations. Evaluates densities. Adds detail for each floor. Calculates square footage and generates reports.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 3 since 1982 ☐ Cost: $8,000

GALILEO SOFTWARE

☐ **HOBCW (Hydraulics of Bridge and Culvert Waterways)**
Hydraulic analysis of backwater. Based upon Bureau of Public Roads publication entitled HOBW (Hydraulics of Bridge Waterways). Analyzes circular, box and pipe arch culverts and bridges for backwater. Graphical and tabular output.
IBM PC ☐ 320 KB req. ☐ Copies sold: 30 since 1983 ☐ Cost: $300-$400

☐ **Hydropak**
Six modules for hydrology/hydraulics analysis purchased as unit or individually. Performs SCS hydrograph generation, reservoir routing, open channel analysis, stream gauge statistical analysis and USGS regression equation analysis. Provides editing and graphics output to display or dot matrix printer.
IBM PC ☐ 128 KB req. ☐ Copies sold: 35 since 1983 ☐ Cost: $500 (6 modules); $150 (per module)

☐ **Storm (Storm Sewer Design and Analysis)**
Hydraulic analysis of storm sewer networks using rational method. Up to 600 nodes and 600 pipes. Full screen input editor.
IBM PC ☐ 320 KB req. ☐ Copies sold: 10 since 1986 ☐ Cost: $150-$200

GEOCOMP CORP.

☐ **GEOFLOW**
Solves 2D steady state flow problems. Solves confined and unconfined flow problems. Plotting option plots finite element mesh and top flow line and specified equipotentials using high quality pen plotter.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $500

☐ **GEOLOG 3**
Data acquisition system designed for material properties testing. Allows continuous collection and storage of data while computer is free to do other tasks.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $3,000 and up

☐ **GEOSLOPE**
Performs analyses to determine factor of safety for slopes, fills and excavations. Search feature locates surface that gives minimum factor of safety.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $450

GEOTRANS, INC.

☐ **GR-GRAF**
Graphics post-processor for Gremlin.
IBM PC ☐ Cost: $400

☐ **SEFEDIT**
Preprocessor for SEFTRAN and SEFTRAN-PC.
IBM PC ☐ 640 KB req. ☐ Cost: $400

☐ **SEFGRAF**
Graphics post-processor for SEFTRAN-PC.
IBM PC ☐ 640 KB req. ☐ Cost: $550

☐ **SEFTRAN-PC**
Analyzes 2D fluid flow and contaminant transport problems in areal planes, vertical cross-sections or axisymmetric configurations. Handles Cartesian and cylindrical coordinates.
IBM PC ☐ 640 KB req. ☐ Cost: $1,200

☐ **SwanEdit**
Preprocessor for SwanFlow and SwanFlow-2D.
IBM PC ☐ Cost: $400

☐ **SwanFlow-2D**
Finite-difference 2D code for saturated-unsaturated water flow and nonaqueous or immiscible fluid transport. Applies to functions such as hazardous waste migration analysis, groundwater restoration, and fuel spills and leaks evaluation.
IBM PC ☐ Cost: $1,500

☐ **SwanGraf**
Graphics post-processor for SwanFlow-2D. Produces contour maps of pressure, potential, or saturation, grid diagrams, and time-series graphs.
IBM PC ☐ Cost: $550

☐ **Swift II-PC**
Finite-difference 3D code for coupled flow, heat, brine and contaminant transport.
IBM PC ☐ Cost: $2,500

GRAPHIC SYSTEMS, INC.

☐ **Space Program**
Space planning, design and facilities management. Handles space allocation of 50 elements. Exchanges graphic data files with AutoCAD. Supports data entry. Allocates spaces within vertical/horizontal building envelopes.
IBM PC ☐ Cost: $395

HEINIGER ASSOCIATES

☐ **Architects/Engineers Accounting System**
Modular Payroll, Job Costing and AP system. Interfaces to GL and word processing. Features multiple invoicing formats, departmental segregation, multi-company, customization via telecommunications, annual trial balance, federal 254/255 form filing, project management and scheduling.
IBM PC ☐ 28 KB req. ☐ Copies sold: 25 since 1977 ☐ Cost: $1,500-$4,000 per module

HOLGUIN CORP.

☐ **Civil Engineering and Surveying Solutions**
Applications include transportation projects, earthwork projects, hydraulic and hydrologic analysis, structural analysis, surveying and mapping, land development, construction control, and contour and topographical mapping.
IBM PC ☐ Copies sold: 900 since 1970 ☐ Cost: $1,500 per module

HOUSEMAN & ASSOCIATES

☐ **PC CAD**
CAD and coordinate geometry system for surveyors, civil engineers, and oil and gas concerns.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,200 since 1984 ☐ Cost: $1,450

HUFNAGEL SOFTWARE

☐ **Roomer2**
Creates rooms or floors, furnishes each room and produces perspective views with hidden line removal of each result. Produces scale drawings and area estimates of floor plans.
IBM PC ☐ 256 KB req. ☐ Cost: $295

HYDROP

☐ Storm Sewer Tabulation
Roadway design. Includes upstream analysis, pipe sizing, cost analysis, invert adjustments, oval pipe RCP or CMP, efficient grates and rational method with Manning's equation.
IBM PC ☐ Cost: $350

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Cable Data Management System
IBM no. 6317-002. Produces a color graphics layout of a building floor plan and cabling system. Calculates required cable lengths, wiring closet accessories and attaching product accessories. Generates cabling system report that shows office area origin and wiring closet destination.
IBM PC ☐ 256 KB req. ☐ Cost: $450

☐ DSL/VS (Dynamic Simulation Language/VS)
IBM no. 5798-PXJ. Suited to engineering and scientific application processing.
IBM AT/370, XT/370 ☐ Cost: $10,000

IN-SITU, INC.

☐ HJMatch
Finds best storage coefficient and transmissivity, values and leakage coefficient by matching pump test data with Hantush-Jacob (1955) type curve. If data for at least three observation wells is available, computes directional transmissivity.
IBM PC, XT ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $250

☐ Papadopls
Uses multi-well pump test data (one pumping well and minimum of three observation wells) to obtain mean directional transmissivity using all three-well combinations. Results can calculate directional dispersivity.
IBM PC, XT ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $150

☐ Plume
Calculates dispersion of contaminant in groundwater as function of time, distance and direction from contaminated area. Sources may be instantaneous or time-dependent, constant for finite time or exponentially declining. Includes effects of adsorption and conversion.
IBM PC, XT ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $900

☐ Tsmatch
Finds best values of storage coefficient and transmissivity by matching pump test data with well-known Theis type curve. If data for at least three observation wells is available, optionally computes directional transmissivities.
IBM PC, XT ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $250

☐ Vadose
Calculates fluid saturation as function of space and time for flow into unsaturated porous media. Calculations use quasi-analytical solution to 3-D Richard's equation of mass conservation. Considers leakage or drainage from several sources.
IBM PC, XT ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $700

☐ Water-Vel
Predicts direction and flow rate of groundwater based on piezometric measurements. Obtains hydraulic gradient with least squares fit to piezometric measurements and then groundwater velocity using Darcy's Law.
IBM PC, XT ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $100

☐ Wellsamp
Determines pump time required to obtain sample containing desired percentage of aquifer water. Suitable for fully penetrating confined aquifers or partially penetrating unconfined aquifers. Follows Papadopulos and Cooper, and Boulton and Streltsova methods respectively.
IBM PC, XT ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $250

INFOMAX CORP.

☐ A/E Marketing Manager
Marketing and proposal generation system for architectural or engineering design firms. Tracks project, personnel and client experience. Produces reports and statistics for strategic planning.
IBM PC

INTERLAKEN TECHNOLOGY CORP.

☐ Calfex
Handles engineering design, scientific calculations and analysis with equations. Produces graphics, table of results, backsolving, simple and array variables. Optional M.E. Pack 1 includes fourier series, beam analysis, helical springs, beams with end and side loads, duct flow and disk-shaft vibrations.
IBM PC, XT, AT ☐ 48 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $200-$250

JAMES J. JORDAN, ARCHITECT-ENGINEER

☐ Diaframs
When used with Sherwall module, transfers needed information including number of floors, wall lengths and heights, and seismic shear.
IBM PC ☐ 48 KB req. ☐ Introduced: 1982 ☐ Cost: $97

☐ Retwalls
For simple cantilevered walls with single thickness. Accepts vertical dead and live loads, longitudinal loads and surcharge loads and soil weight.
IBM PC ☐ 48 KB req. ☐ Introduced: 1981 ☐ Cost: $97

JP AXE ID

☐ NAPS (Network Analyzer for Piping Systems)
Examines steady incompressible flow in single and multiple branch piping systems. Calculates pressure at selected points, flow in all branches and head loss in each component. Includes built-in library of 35 common piping system components. Prints list of system components for cost estimating.
IBM PC ☐ 128 KB req. ☐ Copies sold: 136 since 1984 ☐ Cost: $250

JUNG/BRANNEN RESEARCH & DEVELOPMENT CORP.

☐ Archibus
Utilizes Multimate, Masterspec, Power-Base and dBASE III, Lotus 1-2-3, and AutoCAD, CADPLAN and CADVANCE.
IBM XT, AT ☐ 512 KB req. ☐ Cost: $2,000

LANDCADD, INC.

☐ Irrigation Design
Performs layout, design and check calculations on irrigation system. Works with AutoCAD. Sizes/labels pipes in circuit zone. Calculates distance between nodes, flow, PSI loss and velocity for pipes. Totals entire circuit. Provides elevation adjustments and pressure checking before sizing valves.
IBM PC ☐ Cost: $395

LIBRARY OF ENGINEERING APPLICATIONS PROGRAMS, INC.

☐ SPAN
Designs and analyzes precast/prestressed concrete bridge girders. Handles longitudinal stringers, multi-beams, spread box girders and flat slabs. Includes tenth point analysis, truck lane and military load analysis by closed form solution. Draped or straight patterns with debending.
IBM PC ☐ 256 KB req. ☐ Copies sold: 46 since 1984 ☐ Cost: $2,950

MCGRAW-HILL

Cost/Information System Division

☐ Design Estimator II
Design level estimating. Includes material/labor cost data base. Enters project overheads, dimensional data and material selections. Produces building systems report with costs based on project locations zip code. Reports trade, UC1 and CS1 summary/detail. Labor/material cost overrides.
IBM PC ☐ 256 KB req. ☐ Copies sold: 450 since 1984 ☐ Cost: $845

MC2 ENGINEERING SOFTWARE

☐ Air Conditioning Group
Programs for calculating cooling/heating requirements, duct/hydraulic pipe design, heating fuel cost and life cycle cost. Available in package groups for commercial and residential air conditioning.
IBM PC ☐ 64 KB req. ☐ Copies sold: 560 since 1980 ☐ Cost: $1,745

☐ DD4M (Duct Design)
Interactive air duct design using static regain, constant velocity or equal friction methods of ASHRAE 1985. Handles 100 duct paths. Suggests suitable duct size. Total sections limited only by RAM size. Menu-driven.
IBM PC ☐ 64 KB req. ☐ Copies sold: 560 since 1980 ☐ Cost: $265

☐ HC3M (Heating Fuel Cost)
Uses ASHRAE modified degree-day method to calculate annual fuel cost for oil, gas or electronic resistance in residences or small commercial buildings. English or Metric units. Menu-driven.
IBM PC ☐ 64 KB req. ☐ Copies sold: 300 since 1980 ☐ Cost: $95

☐ HP2M (Hydraulic Pipe Design)
Interactively sizes pipes for hydraulic systems without interconnected loops. Uses NFPA pressure drop equations. English or Metric units. Menu-driven.
IBM PC ☐ 64 KB req. ☐ Copies sold: 560 since 1979 ☐ Cost: $145

☐ HP3M (Hardy Cross Water System Analysis)
Performs Hardy Cross solution of water distribution systems having large numbers of interconnected loops, with common pipes between loops. Calculates hydraulically balanced flows and pressure drops in each pipe section. Auxilary routines for related hydraulic calculations. Uses NFPA equations.
IBM PC ☐ 64 KB req. ☐ Copies sold: 150 since 1979 ☐ Cost: $245

☐ HP4M (Fire Sprinkler Grid System Design Program)
Grid sprinkler design system. Includes NFPA standards, shortcut inputs and FORTRAN matrix solution. Locates most remote area. Handles irregular pipe sections. Prints schematic diagram and outputs for underwriters.
IBM PC ☐ 64 KB req. ☐ Copies sold: 150 since 1979 ☐ Cost: $995

☐ HP5M (Tube Bending)
Handles bend locations inputs for 3D shapes. Prints out cut length, clamp length, mandrel stop, backup, bend angle, angle between planes and bend direction. Metric or English units.
IBM PC ☐ 64 KB req. ☐ Copies sold: 160 since 1983 ☐ Cost: $995

☐ HP6M (Fire Sprinkler Tree System Design)
Designs tree fire sprinkler systems interactively using NFPA formulas. Prints standard NFPA format for presentation to underwriters. Starts at either end of system. Includes screens with help messages, windows, input checking and default values.
IBM PC ☐ 64 KB req. ☐ Copies sold: 170 since 1981 ☐ Cost: $150

☐ Hydraulic Group
Includes Fire Sprinkler Grid and Tree System Design, Hydraulic Pipe Design and Hardy Cross Water System Analysis and Tube Bending.
IBM PC ☐ 64 KB req. ☐ Copies sold: 195 since 1979 ☐ Cost: $2,310

☐ LC2M (Life Cycle Cost Analysis)
Calculates total life cycle owning cost by summing initial investment, annual fuel, power, maintenance and major overhaul costs over life of equipment, all brought back to present value at user-input discount rate. Program compatible with requirements for federal building projects.
IBM PC ☐ 64 KB req. ☐ Copies sold: 500 since 1980 ☐ Cost: $115

☐ RL5M (Residential Manual J Heating and Cooling Load)
Residential, condominium and small commercial cooling/heating loads using ACCA Manual J, 7th Edition 1986 methods. 100 zones capacity. Includes input screens with help messages and windows.
IBM PC ☐ 64 KB req. ☐ Copies sold: 350 since 1980 ☐ Cost: $295

☐ **ST11M (Structural Out-of-Core Solution for Finite Element Analysis)**
Out-of-core solution module for ST10MB. Takes construction and solution out to disk line by line if matrices become too large within core RAM. Handles 3D plate, membrane and space frame problems. Placed on disk with ST10MB.
IBM PC ☐ 64 KB req. ☐ Copies sold: 50 since 1980 ☐ Cost: $195

☐ **ST12M (Structural Auto Setup and Input for Finite Element Analysis)**
Designed to cut input time for Finite Element Program by factor of ten or more, when used to analyze in plane frame mode structures having 90-degree joints such as an office building. Opportunity for entry correction is offered during data entry.
IBM PC ☐ 64 KB req. ☐ Copies sold: 75 since 1980 ☐ Cost: $150

☐ **ST14M (Shear Wall Design)**
Designs reinforced concrete variable shaped shearwalls and columns by ACI 318-77 Ch. 10. Computes points for interaction curves and reverses wind. Recalculates for other steel schedules at other building levels. Interactive design.
IBM PC ☐ 64 KB req. ☐ Copies sold: 150 since 1980 ☐ Cost: $295

☐ **ST15M (Steel Beam Design)**
Selects standard prismatic compact beams by AISC Manual for 33 locations, using W, M, S and HP3-36 sections. Provides optimum beam shape, deflection, lateral support spacing. Prompting and interactive. Metric or English.
IBM PC ☐ 64 KB req. ☐ Copies sold: 165 since 1980 ☐ Cost: $195

☐ **ST16M (Concrete Beam Design)**
Designs concrete beams by ACI 318-77 ultimate strength method. Outputs area of reinforcing steel, stirrup spacing, design moments and inflection points. Prompting, interactive, Metric or English.
IBM PC ☐ 64 KB req. ☐ Copies sold: 105 since 1980 ☐ Cost: $395

☐ **ST17M (Steel Column Design)**
Selects optimum steel column sections W, M, S and HP3-36 by AISC methods. Axial loads, with or without end bending moments. Provides AISC interaction results. Prompted, interactive. Metric or English units.
IBM PC ☐ 64 KB req. ☐ Copies sold: 120 since 1980 ☐ Cost: $195

☐ **ST18M (Concrete Column Design)**
Designs near-optimum reinforced concrete columns of round spiral and square tied types using Gaylord and Gaylord method. Meets ACI 1983 Concrete Design Code requirements. Runs both English and SI metric units.
IBM PC ☐ 64 KB req. ☐ Copies sold: 150 since 1980 ☐ Cost: $295

☐ **ST19M (One-Way, Two-Way Concrete Slab Design)**
Designs concrete slabs under uniform applied loads, using Winter and Nilson and ACI 318-77 Direct Design Method. Computes minimum slab thickness required by codes and design moments. Runs SI metric and English units.
IBM PC ☐ 64 KB req. ☐ Copies sold: 100 since 1980 ☐ Cost: $395

MFE ASSOCIATES

☐ **Digitworks**
Earthwork and takeoff system with digitizer input and interface to AutoCAD.
IBM PC, XT, AT

☐ **Siteworks**
Cut/fill and drainage/runoff calculations, horizontal layout and roadway design.
IBM PC, XT, AT

MICRO INFORMATION ENGINEERING CORP.

☐ **Keystone Project Management System**
For design firm's architects, engineers and interior designers. Interfaces accounting, job costing, word processing and 2D graphics design. Novell NetWare, PC-Net, Sharenet and STD Net compatible.
IBM PC ☐ 53 KB req. ☐ Copies sold: 38 since 1983 ☐ Cost: $6,000

MICRO MODE

☐ **Integrated Financial Management/General Accounting for Architects/ Engineers**
Tailored to follow AIA procedures. Entry of time sheet and expense data. Updates projects records, payroll, payables, receivables and GL. Project reports show profitability of projects and productivity of employees. Permits budgeting based on historical data. Produces aging reports and accommodates multi-company accounting.
IBM PC ☐ 256 KB req. ☐ Copies sold: 480 since 1982 ☐ Cost: $6,250

MICRO-VECTOR, INC.

☐ **Projections**
For smaller design/build companies and independent furniture dealers. Simulates the organization hierarchy of department levels, job titles, equipment and work areas. Graphics analysis reports feature bottom-line space requirements for single work areas, departments and for the entire project.
IBM PC, XT, AT

☐ **Space Management**
Searches facilities data base for space that matches any needs criteria user may define. Records actual space and personnel use, including room and floor inventories, occupancy information and area attributes.
IBM PC, XT, AT ☐ 512 KB req.

MICROCOMP ENGINEERING SOFTWARE

☐ **DYSPON (Pipe Network Dynamic Response)**
Quasi dynamic water distribution system that addresses changing demand, fire flow and reservoir elevation change effects on pipe networks. Output uses data generated by WATNET and includes two-hour interval flows, velocities and pressures over 24 hours.
IBM PC ☐ 48 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $295

☐ **WATNET (Pipe Network Analysis)**
Provides flows, velocities, pressures, and head loss on water distribution systems. Handles 100 junctions, 130-400 pipes, 25 reservoirs, 25 check/valves and pressure reduction valves and 25 pumps.
IBM PC ☐ 48 KB req. ☐ Copies sold: 200 since 1982 ☐ Cost: $595

MTI SOFTWARE

(formerly DISCO-TECH, division of Morton Technologies, Inc.)

☐ **CAD**
Links Series 2000, 1000 and 800 to AutoCAD.
IBM PC ☐ 320 KB req. ☐ Copies sold: 20 since 1986 ☐ Cost: $350

☐ **Cut & Fill**
Compares existing, rough or finished grades. Provides section-by-section calculations and printout of cut or fill required. Supports total cut and total fill net cut or fill.
IBM PC ☐ 64 KB req. ☐ Copies sold: 250 since 1983 ☐ Cost: $195

☐ **Disco-Specs**
Provides specifications for architect or engineer in format which develops specifications by modifying original text. Compatible with Spellbinder, WordStar, Perfect Writer, Microsoft Word, Scripsit and Super Scripsit word processing programs.
IBM PC ☐ 64 KB req. ☐ Copies sold: 900 since 1981 ☐ Cost: $195

☐ **Drainage Hydraulics**
Provides calculations relating to full-pipe or partially full-pipe hydraulics and storm drain design. Includes SD NET, Hydrol and T-Back.
IBM PC ☐ 128 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $695

☐ **Pressure Hydraulics**
Includes Watnet and Dyspon. Analyzes water distribution system designs, develops solution information and provides quasi-dynamic system response for water systems over a 24-hour period.
IBM PC ☐ 128 KB req. ☐ Copies sold: 400 since 1982 ☐ Cost: $895

☐ **Series 1000**
Civil geometric design and calculations for civil engineer. Contains Cogo, Travarea, Ptplot, Vercurve and Curve.
IBM PC ☐ 128 KB req. ☐ Copies sold: 30 since 1985 ☐ Cost: $1,095

☐ **Series 2000**
Civil engineering and surveying calculations. Includes Locator, COGO, Travarea, Ptplot, Vercurve and HCS. 3D files provide 18 character alpha/numeric description of any or all points in data base. English/Metric measure units. Calculates coordinates for spiral curves, cul-de-sacs and street knuckles.
IBM PC ☐ 128 KB req. ☐ Copies sold: 400 since 1985 ☐ Cost: $1,795

☐ **Series 800**
For the civil engineer or surveyor. File structure is 2D and directions defined as bearings or relative angles. Handles field data reduction, coordinate geometry, mapping and plotting. Includes Finder, EDM/TOPO, Cogo, Mapcheck and Plotter.
IBM PC ☐ 128 KB req. ☐ Copies sold: 300 since 1982 ☐ Cost: $1,295

☐ **Streets**
Calculates cut and fill volumes. Plots cross-sections of each station on pen plotter or dot matrix printer.
IBM PC ☐ 128 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $500

☐ **Tech Plot**
Pen plots lines and curves, drawing and labeling bearings and distances. Works with SURVEY 2000, 1000 or 800 using survey point numbers and coordinates. Plots elevations, descriptions, point numbers and coordinates in various positions. Creates curve data table as each curve is plotted. Includes AutoCAD interface.
IBM PC ☐ 128 KB req. ☐ Copies sold: 150 since 1984 ☐ Cost: $1,000

O'HANLON COMPUTER SYSTEMS

☐ **Architect's & Engineer's Project Management**
Integrated general accounting and job costing system designed to monitor and budget labor and service intensive projects. Based upon standards adopted by the AIA. GL, AR, AP and Project Management.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $2,495-$2,795

THE PINKERTON/GALEWSKY PARTNERSHIP

☐ **Spec-Writer**
Specification development tool. Aids in editing, printing, and management of computer-based specification libraries. Works with MasterSpec and Spectext libraries.
IBM PC ☐ 256 KB req. ☐ Copies sold: 8 since 1980 ☐ Cost: $750

PIPING TECHNOLOGY & PRODUCTS, INC.

☐ **Computer-Aided Engineering Software**
Includes CAEPIPE for 3D piping analysis, CAEFRAME for 3D structural analysis, and CAENOZ LES to analyze nozzle penetrations in vessel heads/spherical shells.
IBM PC, XT, AT, Portable PC

PIXEL

☐ **DFP**
Calculates pressure drop and flow rate of fluids in piping systems. Includes English-like, keyword, free-field input format. All common piping components can be referenced by name. Four methods can be used to model special components. Contains expandable database files.
IBM PC ☐ 256 KB req. ☐ Cost: $295

PIZER INC.

☐ **Earth**
Computes cut and fill volumes for roadway and borrow pits. Reduces field survey data. Plots X-sections, each with up to 500 ground and templet points.
IBM PC ☐ Cost: $175

☐ **Hydra**
Storm/sanitary sewer design and analysis. Cost estimating. Sanitary, infiltration, storm and miscellaneous flows in any combination. Storm analyses by Rational Method or by Hydrographic Simulation. Analyzes pipes, odd shaped pipes, ditches, gutters, inlets, pumps, diversion structures and storage facilities.
IBM PC ☐ Cost: $495-$795

☐ **Pump**
Pump station wet well program. Simulates operation of multiple pumps, wet wells and force mains. Checks for possible cavitation problems, power consumption and number of starts per hour. Simulates up to 15 pumps simultaneously. Plots pump curves against dynamic head.
IBM PC

☐ **3D Cogo**
Coordinate geometry system. Interfaces with Lotus 1-2-3 and dBASE III.
IBM PC ☐ Cost: $95

PROTRAK

☐ **CADPAC**
Creates 3D drawings from geometrics, such as lines, circles, arcs and solid fill areas. Up to 64 layers can be utilized within a drawing with up to 256 levels of information within each layer. Displays line widths and colors in 16 pen weights.
IBM XT, AT ☐ 512 KB req. ☐ Copies sold: 5 since 1984 ☐ Cost: $2,000

RESOURCE DYNAMICS, INC.

☐ **RDI/PC**
Features facility inventory, forecasting of personnel and equipment, affinity optimization, stack planning, and lease management. Works in mouse-driven user interface. Communicates area, symbol, and building outline information with AUTOCAD. Interfaces to CAP System.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $12,000

SEMAPHORE, INC.

☐ **SEMA 4 Professional Accounting System**
For architectural design and engineering firms. GL, AR, AP, time billing and job costing. Features invoicing and check writing formatted reports, hot-line support, financial statements, password security option, open-item AR and aged receivables.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 80 since 1984 ☐ Cost: $795

SIERRA CYBERNETICS

☐ **Coordinate Plotting**
Plots 2,000 pairs at a time with worst case to 1/60 inch. Plots descriptions and elevations. Allows range of coordinates to be specified. Identifies minimum scale that will fit on paper, larger plots may be made and pieced together. Matches marks for each page. Allows multiple copies.
IBM PC

☐ **Field Bearing Traverse**
Engineering and surveying software. Provides the capabilities of Sierra Cybernetics' Field Data Traverse allowing bearings or north azimuths.
IBM PC

☐ **Pioneer 8/16**
Includes Field Data Traverse, Field Bearing Traverse, Rotation, Coordinate Plotting, Screen Plotting, Coordinate Geometry and TOPO Plot Programs.
IBM PC

☐ **Plotter Program**
Engineering and surveying software.
IBM PC ☐ Cost: $1,200

☐ **Road Design Earthwork with Plot**
Engineering and surveying software.
IBM PC ☐ Cost: $800

☐ **Rotation Program**
Allows rotation and translation with scale factors of any range of coordinates. Rotates to a bearing or through an angle.
IBM PC

☐ **Subdivision and Borrow Pit Design**
Engineering and surveying software.
IBM PC ☐ Cost: $700

☐ **Surveying Full Version**
Engineering and surveying software.
IBM PC ☐ Cost: $900

☐ **Surveying Run Version**
Engineering and surveying software.
IBM PC ☐ Cost: $900

SIGMA DESIGN, INC.

☐ **PC Solutions**
For architects and engineers.
IBM PC

THE SOFTWARE ENGINEERING CO.

☐ **FLOWNET**
Finite element program for solving modified La Placian type differential equation governing seepage through general anisotropic, homogenous and nonhomogeneous saturated porous media at finite number of nodal points.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $300

STONER ASSOCIATES, INC.

☐ **LIQSS**
Determines the balanced steady-state head-flow relationship for liquid network systems composed of pipelines, pumps and valves. Useful in design and operation of water distribution systems, petroleum product pipelines, processed piping systems and fire sprinkler systems. Solves problems of up to 3,000 nodes.
IBM PC, AT, XT ☐ 500 KB req. ☐ Copies sold: 50 since 1971

SUN VALLEY SYSTEMS

☐ **Surveyors System**
Supports traverse with elevation, sideshots, closure, backsites, areas, traverse balance, stadia reduction, universal triangle solution, universal intersections, inverse and area from coordinates, coordinate transformation, circular curve solution, horizontal and vertical curve stakeout, cross section and borrow pit volume.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 300 since 1976 ☐ Cost: $300

SYS COMP CORP.

(an Easinet Co.)

☐ **COGO3D**
Designed for use in the computation problems involved in control surveys, highway design, right-of-way surveys, interchange design, bridge geometry, subdivision work, land surveying and construction layout. System tables can be accessed by other FORTRAN programs and can be presented in variable length with up to 9,999 geometric figures and coordinates.
IBM PC ☐ 32 KB req. ☐ Copies sold: 10 since 1976 ☐ Cost: $2,100-$3,500

☐ **COLFTGI-Column Footing Design-Axial Load Moments**
Adheres to the requirements of 1977 ACI code strength design method while considering column size. Designs any size concentric square or rectangular column footing according to axial load and biaxial applied moments for concrete pressure, steel stress pressure or soil pressure.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $200-$350

☐ **COMFTGI-Combined or Rectangular Footing Design**
Designs rectangular reinforced concrete footings that support two columns spaced a specific distance apart. Can also be used to design rectangular single column footings. Includes input and output capacity. Conforms to 1977 ACI code methods.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $375-$650

☐ **CONBGR**
Analyzes both the dead and live loads of a continuous span composite or non-composite highway bridge girder in accordance with the 1977 AASHTO specifications with 1979 interim excluding load factor design. Applies the AASHTO lane, truck and associated impact loadings for H10, H20, H15, HS15 and HS20.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $600-$1,000

☐ **CONCOL**
Designed to study reinforced concrete columns using the strength design method, to determine the minimum amount of reinforcement and its pattern for round spiral or tied columns subject to an axial load combined with uniaxial or biaxial bending. Conforms to the 1977 ACI building code.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1970 ☐ Cost: $400-$650

☐ **EARTH3**
Allows user to shift finish-grade cross-sections or templates horizontally and vertically, add a superelevation, compute the earthwork or ask system to balance the earthwork. Defines cross-sections, computes average and area earthwork volumes adjusted access or deficit of earth and generates reports.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $6,000-$7,000

☐ **FLPLT**
Studies continuous frame flat plate slab, flat slab or waffle slab of 12 spans with or without drop panels and column capitals. Uses elastic analysis. Conforms to 1977 ACI codes. Effects of vertical and lateral load moments can also be combined.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $895-$1,500

☐ **NONPBM2**
Accomplishes skip live load and dead load analysis and design for almost any shape, width or depth of beams of up to 12 spans as specified by 1977 ACI code strength design requirements.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1970 ☐ Cost: $750-$1,150

☐ **PRISBM2**
Determines complete dead and all possible skipped live load shears and moments for continuous beams of up to 12 spans with columns above and below. Loadings may be chosen and combined from any of 18 types of loading diagrams.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1970 ☐ Cost: $825-$1,350

☐ **PRSTRU/PRSTRS**
Analyzes simple-span, uniformly-loaded prestressed beams of either rectangular, single T, double T, or box shape. Design may include structural or nonstructural topping. Beams are examined at 20 points. System determines placement envelope. Conforms to 1977 ACI code.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1970 ☐ Cost: $375-$600

SYSTEK, INC.

☐ **Coordinate Geometry**
For locating points, calculating areas, distances, azimuths or bearings, traverse adjustment up to 100 sides and description of streets. Up to 400 points. Free-format input.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1981 ☐ Cost: $47

☐ **Earthwork**
Handles any number of stations with station equations and roadbed template exceptions including ditch widths and profile, slopes and shrinkage factor. Develops super elevation by rotation about centerline or median edge. Generates earthwork summaries or roadbed coordinates. Free-format input.
IBM PC ☐ 128 KB req. ☐ Copies sold: 400 since 1982 ☐ Cost: $47

☐ **Matrix Methods**
Allows up to 900 elements. Basic matrix operations for multiplication, inversion and storage on disk.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10 since 1982 ☐ Cost: $47

☐ **Pressure Sewer**
Up to 200 lines on tree-structured system. No loops allowed. Outputs discharge time. Sizes lines on velocity and head loss criteria. Free-format input.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $47

☐ **Quantity Estimation**
Determines volume of material, + cut or - fill, between set of original cross-sections and overlaid final set of cross-sections. Generates end areas at each station and cut, fill and cumulative volumes between stations. Checks cross-section data files for user-input errors. Virtual memory organization allows analysis of large structures.
IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $47

☐ **Roadway Geometry**
Horizontal alignment includes design and field notes for circular, spiralized and compound curves. Vertical alignment includes design and elevations for symmetrical and unsymmetrical parabolic curves. Free-format input. 1984 AASHTO design formulations.
IBM PC ☐ 128 KB req. ☐ Copies sold: 300 since 1981 ☐ Cost: $47

☐ **Surveying and Land Measurements**
Reduction of differential level notes, three-wire level notes, cross-section notes and stadia notes. Polaris observation for determination of true azimuth and/or bearing. Traverse adjustment. Taping corrections.
IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $47

☐ **Water Distribution - Loops**
Standard Hardy-Cross technique handles approximately 1,000 pipes. Runs against a data file which may be modified for changes in demand, line size or fire flows. Calculates head losses, velocities and pressures. Free-format input.
IBM PC ☐ 128 KB req. ☐ Copies sold: 300 since 1982 ☐ Cost: $47

☐ **Water Distribution - Nodes**
Hydraulic analysis based on Newton-Ralphson and Hazen-Williams methods. Adjusts heads to meet continuity criteria. Pressure reducers, opened and closed valves, check valves, inline booster pumps, pressure sustaining valves, constant flow valves and variable outputs. Up to 600 pipes.
IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $47

TARA DATA SYSTEMS, INC.

☐ **DuoCalc 2**
Works with foot and inch measurements, fractions of inches and decimal numbers. Arithmetic and trigonometric functions, squares, square roots, powers, angles/slope conversions, stair and riser design and conversion to decimal/metric equivalents.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $95

TIMBERLINE SOFTWARE CORP.

☐ **Aepex**
Modules include Architect/Engineer, GL, Payroll, AP and custom report writer. Provides detailed project costing and overall operation from time and expense entries. Rolling invoices can be designed to meet firm's particular contract needs.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $5,790

☐ **Architect/Engineer**
Component of Aepex. Performs billing and provides project information. Provides detailed costing of projects and data on overall operation from time and expense entries. Billing invoices can be designed to meet firm's particular client needs. Integrates with Medallion Collection.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 600 since 1984 ☐ Cost: $2,800

UNIVERSAL SOFTWARE APPLICATIONS, INC.

☐ **EARTH**
Calculates earthwork quantities for design of subdivisions and highway projects using average end area method. Input includes vertical curve data, original ground and rock data, proposed design section data for roadway or tract and design section data.
IBM PC ☐ Copies sold: 50 since 1980 ☐ Cost: $625

☐ **Storm**
Calculates hydraulic properties for pipe culverts, box culverts and open ditches up to 100 separate reaches. Records physical description of drainage system and area of watershed tributary to each reach of pipe and runoff factor for watershed.
IBM PC ☐ 64 KB req. ☐ Copies sold: 20 since 1983 ☐ Cost: $300

☐ **UNIPROJ**
Allows 99 phases, 99 tasks and weekly, bi-weekly, bi-monthly or monthly periods. Billings summary by period, month and project-to-date, time/charge sheet summary by MTD and project to date, and summary and phase task report.
IBM PC ☐ 64 KB req. ☐ Copies sold: 3 since 1982 ☐ Cost: $2,000

UNIVERSITY OF KENTUCKY

Civil Engineering Software Center Division

☐ **KYPipe**
Steady state/time simulations for pipe network liquid flow analysis. Hazen Williams or Darcy Weisbach head loss relations. Graphics produces network layouts and pressure or grade contours.
IBM PC ☐ 256 KB req. ☐ Copies sold: 2,000 since 1976 ☐ Cost: $225

☐ **Pipeview**
Graphic displays of pipe network layouts and results of hydraulic analysis. Highlights pressure, velocity and losses. Plots elevation pressure or grade contours. Uses results generated by KYPipe.
IBM PC ☐ 256 KB req. ☐ Copies sold: 150 since 1984 ☐ Cost: $275

☐ **Surge**
Analysis of transient pressure and flow conditions in piping systems due to valve operation, pump startup or shutdown and load changes. Surge tanks, air vessels, pressure relief valves, bypass lines and check valves. Prints and plots results. Graphics plots.
IBM PC ☐ 256 KB req. ☐ Copies sold: 50 since 1982 ☐ Cost: $400

VON GUNTEN ENGINEERING SOFTWARE, INC.

☐ **CONCSTAT**
Calculates, prints and charts statistics for concrete test results. Prints summary of test results. Output includes standard deviation, coefficient of variation and moving average values.
IBM PC ☐ 256 KB req. ☐ Cost: $299

☐ **CPR (Concrete Performance Reports)**
Concrete statistics system. Produces test result summaries, tracking charts, strength distribution charts and performance summaries.
IBM PC ☐ 256 KB req. ☐ Cost: $595

☐ **FSLOC**
Factor of safety location plotting utility for SB-SLOPE.
IBM PC ☐ 256 KB req.

☐ **GRN-SIZE**
Grain size distribution test calculation and drafting program. Supports mechanical and hydrometer tests. Graphics output includes up to 3 curves per page.
IBM PC ☐ 256 KB req. ☐ Cost: $399

☐ **Logdraft**
Soil test boring data management and drafting program. Drafts symbolic logs and sample test results. Soil symbols follow USCS conventions. Logs include up to 3 borings per page.
IBM PC ☐ 256 KB req. ☐ Cost: $449

☐ **PROCTOR**
Proctor test data reduction and drafting program. Follows ASTM D 698 and D 1557 procedures. Calculates optimum moisture and maximum dry density.
IBM PC ☐ 256 KB req. ☐ Cost: $349

☐ **SB-SLOPE**
Simplified Bishop slope stability analysis. Features pore pressures, free water surface, distributed loads, tension crack, and pseudo-static seismic, up to 19 soil types, graphic data checking and interactive graphics failure surface selection.
IBM PC ☐ 256 KB req. ☐ Cost: $595

☐ **TRIAX**
Triaxial test data reduction and drafting program.
IBM PC ☐ 256 KB req.

WESTERN WARES

☐ **FREHEAT**
Finds energy gains and losses, solar load ratios, BTUs needed to maintain given temperature, outside vs. inside temperature, amount of heat absorbed by mass floor or wall. Optimizes solar performance by altering key parameters and comparing daily, monthly, and end of simulation statistics.
IBM PC ☐ 60 KB req. ☐ Copies sold: 150 since 1982 ☐ Cost: $175

WILEY PROFESSIONAL SOFTWARE

(division of John Wiley and Sons, Inc.)

☐ **Cadlight I**
Evaluates natural and artificial interior lighting for architects and designers.
IBM PC, XT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $595

☐ **Gasflo**
Computes the pressure loss and power consumption for a series of up to 20 sections of pipe. Facilitates pipe sizing, determines compressor power requirements and aids in the design of piping systems. Calculations can be performed in either English or SI metric units.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $185

☐ **Power Transmission I**
Consists of Routine Moment of Inertia, Drive Calculations, Shaft Properties, Shaft Stress and Belt and Chain Length/Center Distance Calculations. Printouts or inputs, calculated data and job identifiers are obtained with a single keystroke.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $125

☐ **Psychro**
Computes the properties of air-water mixtures over a wide range of temperatures and pressures in either English or SI metric unit systems.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $145

☐ **Refrig**
Calculates thermodynamic properties of eleven common refrigerants, R11, R12, R13, R14, R22, R23, R113, R114, R500, R502 and ammonia. Calculates properties of saturated vapor, saturated liquid, superheated vapor and sub-cooled liquid. Determines phase and properties.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $185

COMPUTER-AIDED DESIGN

ACCUGRAPH CORP.

☐ **multiDRAW**
2D and 3D design and drafting for mechanical and electrical engineering, manufacturing, architectural and facilities planning. Features cell manipulation, file management, keyboard interaction and dimensioning capabilities.
IBM AT ☐ 512 KB req. ☐ Copies sold: 31 since 1984 ☐ Cost: $7,000

ALGOR INTERACTIVE SYSTEMS, INC.

☐ **Superdraw**
2D and 3D CAD. Encompasses civil, architectural, and mechanical engineering, electrical/logic layouts, art work for documentation, flow charts, and slide preparation. Provides graphic data entry and editing commands. Allows development and access of a symbols or functions library.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 30 since 1983 ☐ Cost: $1,500-$8,000

APPLICON
(a Schlumberger Co.)

☐ **Interface Analysis**
Provides interference checking and clearing analysis on models created with Applicon Solids Modeling II package.
IBM PC

☐ **Mechanisms-3D**
Assists in creating, checking and viewing models of 2D and 3D rigid mechanical assemblies and subsequent analysis results.
IBM PC

☐ **Solids Modeler**
Creates 3D graphic solids models for calculating shaded images, boundary representations, hidden-line removed views and mass properties of complex parts and assemblies.
IBM PC

☐ **Surface Modeler (Editor)**
Augments capabilities of Applicon 3D Modeler by providing tools for creating and manipulating analytic and free-form surfaces. Provides techniques for creating surface.
IBM PC

☐ **3D Modeler**
Provides 3D modeling for design, drafting and drawing management.
IBM PC

APPLIED DATA SYSTEMS, INC.

☐ **UniCad**
CAD. Drawing editor and parts librarian.
IBM PC ☐ Cost: $1,395

APPLIED SOFTWARE TECH, INC.

☐ **AutoSe**
Full screen text editor for AutoCAD. Reformats paragraphs and inserts/deletes text and lines. Includes word wrap, underline, tabs, search and replace and ASCII text importing and exporting.
IBM PC ☐ Cost: $88

AT&T INFORMATION SYSTEMS

☐ **OmniDraft**
CADD.
IBM PC ☐ 512 KB req.

AUTO-TROL TECHNOLOGY CORP.

☐ **Series 7000 Solids Modeling System**
Creates and displays solid models with multiple views simultaneously. Positions view windows on drawing overlay. Performs local pan, zoom and rotate. Renders model with surfaces removed or as color-shaded image. Integrates with Series 7000 Advanced Graphics.
IBM PC

AUTODESK, INC.

☐ **AutoCAD**
Reviewed Jan 1986 p. 50.
2D, 3D-wireframe architectural, piping/landscape drawings, mechanical, electrical, chemical, structural, and civil engineering and printed-circuit design. Allows annotation, insertion, storage, brick walls and memory arrays. Stretch, trim, extend, offset, rotate, scale, divide, measure and explode. Runs micro applications on workstation driving host applications.
IBM PC, XT, AT, RT, 3270-PC, 3270-PC AT/GX, 3270-PC AT, 3270-PC AT/G, 3270-PC/GX ☐ 384 KB req. ☐ Copies sold: 58,000 since 1982 ☐ Cost: $300-$2,750

☐ **AutoCAD AEC**
Used by architects, engineers and design professionals in the building construction industry. Automates drawing tasks and schedule documentation, constructs walls from dimensions, joins walls at intersections, breaks walls to insert doors and windows, draws stairs, plumbing fixtures, appliances and structural elements.
IBM PC ☐ Cost: $1,000

☐ **AutoSHADE**
3D rendering system. Produces full color facet-shaded, smooth-shaded and global-shaded images. Controls image realism. Requires medium to hi-res display with 256 simultaneous colors and math coprocessor. Compatible with AutoCAD.
IBM PC ☐ 640 KB req.

☐ **CAD/camera 2**
Digitizes paper drawings into AutoCAD drafting system. Applies AI techniques to interpret dot patterns of raster image file produced by scanning camera. Translates interpretations into lines, polylines, solids and text/symbols representations. Edits within drafting program.
IBM PC ☐ Cost: $3,000

☐ **CADAM/AutoCAD Translator**
Allows users to work at PC-based engineering workstations that run AutoCAD, Lotus' 1-2-3 and Symphony, Ashton-Tate's dBASE III, Microsoft's Word and MicroPro's WordStar.
IBM PC, XT, AT, 3270-PC ☐ Cost: $10,000 per CADAM site; $200 per AutoCAD workstation

BENTLEY SYSTEMS, INC.

☐ **MicroStation I**
Reviews and plots 2D or 3D Intergraph design files. Performs window, pan, zoom, fit, levels and views on/off, rotated views, fast/slow text, line weights, grids and named views. Scales, rotates and clips 32 reference files. Supports monochrome and color displays.
IBM PC, AT ☐ Cost: $695

☐ **MicroStation II**
Designed for production environment. Includes MicroStation I capabilities. Places, modifies and deletes elements. Places cells. Manipulates fence contents. Handles snaps and locks. Attaches command/matrix menus. Attaches/manipulates reference file.
IBM PC, AT ☐ Cost: $2,995

☐ **PseudoTerm**
Works with PseudoStation to access Intergraph CAD/graphics data base. Attaches matrix/command menus. Allows swapping between 2 logical screens. Emulates Tektronix 4105 terminal and DEC VT100. Supports monochrome and color graphics adapters.
IBM PC, XT, AT ☐ Cost: $595

CAD COUNSEL

☐ **AUTO IGES**
Converts AutoCAD 2.1 DXF to IGES. Searches for BTEs and transfers coordinates of the point, end points, radius, and center points. BTEs include points, lines, circles, arcs, traces, solids, text, and blocks.
IBM PC ☐ 512 KB req. ☐ Copies sold: 240 since 1984 ☐ Cost: $500

CAD DESIGN SYSTEMS, INC.

☐ **ACADPLUS**
Consists of CADmenu and CADcalc.
IBM PC ☐ 512 KB req. ☐ Cost: $975

☐ **Design Board Professional**
Consists of 3D link interface to AutoCAD and AutoCAD peripheral compatibility.
IBM PC ☐ 512 KB req. ☐ Cost: $1,750

CAD, INC.

☐ **CAD-Scan**
Edits and disassembles raster images into layers including text, lines, boilerplate and dimensions. Vectorizes appropriate layers into CAD and reassembles drawing.
IBM AT ☐ 512 KB req. ☐ Copies sold: 1 since 1986 ☐ Cost: $8,000

CADGRAPH SYSTEM, INC.

☐ **CADIS**
Creates commands for line, circle, arc and point. Creates crosshatch with holes suppressed. Inserts text by height, width, angle and slant. Modifies drawings by trimming, splitting, changing, erasing, moving, mirroring and rotating. Includes horizontal, vertical, point-to-point, circular and angular dimension.
IBM PC

CADPLUS PRODUCTS CO.

☐ **CadPack**
Electrical, architectural and mechanical design.
IBM PC ☐ Cost: $750

☐ **CadPack 11-A**
HVAC, plumbing and utilities design.
IBM PC ☐ Cost: $195

☐ **CadPack 11-B**
Piping and plumbing isometrics design.
IBM PC ☐ Cost: $295

CADTRAK CORP.

☐ **Plant*Trak**
Supports retrofitted processing and power plant design functions. Stores 3D models of large plant volumes and complete ANSI piping and AISC steel catalogs. Produces error-free graphics reports such as fabrication isometric drawings. English language data base query system.
IBM PC, XT, AT ☐ 640 KB req. ☐ Cost: $15,000

THE CADWARE GROUP, LTD.

☐ **Design Graphics System/Rule Tool**
Ruled-based procedural expert graphics for CAD applications. Interactive Icon graphics. Facilitates rapid conceptual design. Flags design errors. Integrates with existing CAD systems.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $3,000 (Design Graphics System); $10,000 (Rule Tool)

☐ **DGS/Compose**
Format documentation. Merge text and graphics.
IBM PC

☐ **DGS/Extract**
Extracts design data from schematic design files. Extracts by type or property. Produces ASCII file.
IBM PC

☐ **DGS/Schematic Design**
Combines rules with symbols.
IBM PC

☐ **DGS/Schematic Verify**
Verifies design completeness, accuracy and consistency.
IBM PC

☐ **DGS/Sketch**
Graphic user interface. Constructs diagrams. Control windowing and ICON movement.
IBM PC

☐ **DGS/Utilities**
File handlers, printer/plotter drivers and text editor.
IBM PC

CALCOMP
(subsidiary of Sanders Associates, Inc.)

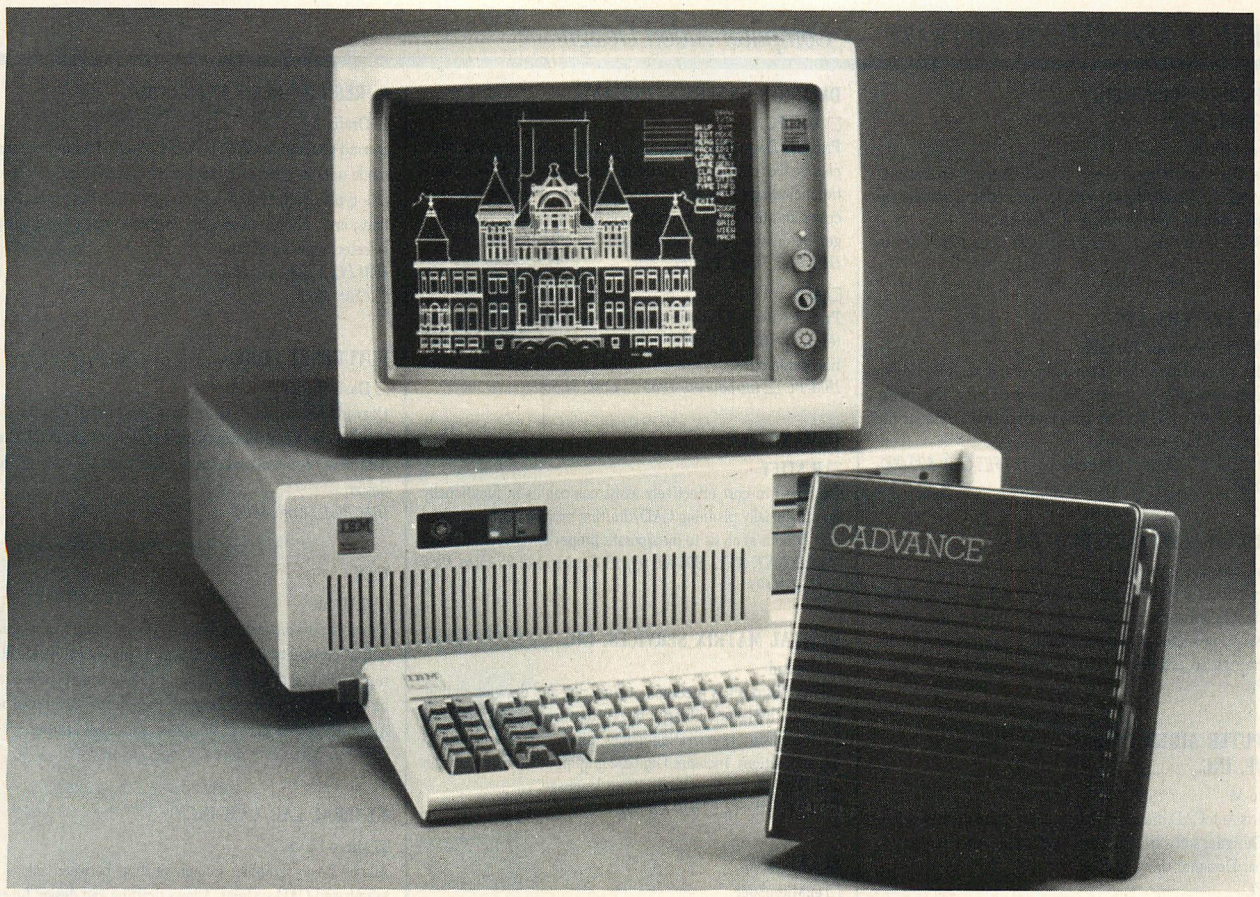
☐ **Cadvance 25**
Conversion and transfer utility. Transfers drawings and data bases between PC-based workstations and Calcomp's System 25 CAD system. Converts Cadvance drawing into System 25 600 or 300 drawing or vice versa. Creates System 25 drawing file or Cadvance view file.
IBM AT ☐ 640 KB req. ☐ Introduced: 1986 ☐ Cost: $2,500

CALCOMP
Personal Systems Unit

☐ **CADDRAFT**
Includes DBMS functions. Performs cost analyses of building and floor plans. Requires mouse or digitizing tablet.
IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $495

☐ **CADPLAN**
Creates 2D designs for engineers, designers and architects. Optional data base extraction performs job costing analysis and automatic dimensioning.
IBM PC, XT, AT ☐ 320 KB req. ☐ Introduced: 1985 ☐ Cost: $2,500

☐ **CADVANCE**
Reviewed Mar 1986 p. 87.
2D PC-based CAD system. Includes building design, floor plans, office layouts, report generation and BOM applications.
IBM AT, XT ☐ Introduced: 1985 ☐ Cost: $2,500



CADVANCE.
THE EASIEST PC CAD SYSTEM.

CADVANCE is the easiest PC-based computer aided design and drafting software on the market. The easiest to learn: an interactive menu structure lets you pick your commands without having to learn extensive routines.

The easiest to use: nested macros reduce often-used routines to a single keystroke while keeping you in the design commands. And CADVANCE's open architecture lets you develop your own tablet menus to meet your special software application needs.

All this ease, and speed, too. That means faster productivity. Both in getting you up to speed and in finishing your projects. It also means faster profits. More jobs completed in less time make your bottom line look very good.

CADVANCE features faster redraw without expensive graphics cards, co-processors or expanded memory cards. Speed and precision in a 16-bit world.

In addition, CADVANCE offers important exclusives: A 3D projections capability included in the basic 2D package price. Upgradability to a family of mid-range and high-end systems from one vendor. And CADVANCE is the only PC CAD package backed by a Fortune 500 company.

CADVANCE: The right tool for the right job at the right price.

Call 1-800-CALCOMP for the name of your nearest CADVANCE dealer. Or write CalComp, P.O. Box 3250, Anaheim, CA 92803. Dealer and end-user inquiries welcome.

CALCOMP

CIRCLE NO. 348 ON READERS SERVICE CARD

CALIFORNIA SCIENTIFIC SOFTWARE

☐ Micro-CSMP
Models time-domain response of servos, filters, chemical processes, and stress and strain forces. Designs control systems for defense, computer peripherals and robotics.
IBM PC ☐ 256 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $900

CAMAX SYSTEMS, INC.

☐ CAMAND Software Package
Provides geometric modeling capabilities and analysis, design documentation and multi-axis NC programming. Networks workstations of various performance levels to share common file structures and user interfaces.
IBM AT ☐ 2,000 KB req. ☐ Introduced: 1976 ☐ Cost: $20,000-$100,000

CARR LANE MANUFACTURING CO.

☐ Tool Designer's Assistant
Library of over 6,000 2D detailed line drawings representing 5,100 tooling components such as jig and fixture bases, toggle clamps, spring-loaded positioners, clamp straps, and assemblies and fixturing accessories.
IBM PC

COMPUTER AIDED TIME SHARE, INC.

☐ Auto-M
Converts AutoCAD drawings to Computervision PC-based Personal Designer software. Converts blocks and nested blocks into Personal Designer drawing files.
IBM PC

☐ Auto-3
Converts AutoCAD drawings to Computervision mainframe-based CADDS 3 software. Converts blocks and nested blocks into CADDS 3 drawing files. Stores mainframe data base files on PC in ASCII-coded data.
IBM PC

☐ Auto-4
Converts AutoCAD drawings to Computervision mainframe-based CADDS 4 software. Converts blocks and nested blocks into CADDS 4 drawing files. Stores mainframe data base files on PC in ASCII-coded data.
IBM PC

☐ Auto-4X
Converts AutoCAD drawings to Computervision mainframe-based CADDS 4X software. Converts blocks and nested blocks into CADDS 4X drawing files. Stores mainframe data base files on PC in ASCII-coded data.
IBM PC

COMPUTERVISION CORP.

☐ Personal Designer
Provides visualization of 3D designs from any orientation. Supports drafting and complex surfaces. User can create complex design layouts, detailed drawings and shaded pictures.
IBM PC

CYBERRESEARCH, INC.

☐ CyberCAD
CAD for architectural design, mechanical, civil and electrical engineering.
IBM PC, XT, AT ☐ Cost: $8,995; lease terms available

DATAGRAPHIC SYSTEMS

☐ CAD Master 2000
Auto-dimensioning, auto-tolerancing, architectural dimensioning, curve fitting, filleting, mirror imaging and computation of volume and perimeter. Isometric grids, wall generator, line and arc editor, symbol edit, BOM, data base extractions, finite element processor and windowing. IGES data format and device independence.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 360 since 1983 ☐ Cost: $2,495

DECISION GRAPHICS, INC. (AL)

☐ ACI/PC
Provides 2-way conversion between AutoCAD drawing interchange files and Intergraph design files. Converts drawing entities including elliptical arcs, blocks/cells, layer/levels, line style, colors and text styles. Features polyline processing, control file generator, cell library handling and specification parameters.
IBM PC ☐ Cost: $3,500

☐ ACS
Provides two-way conversion between AutoCAD drawing interchange files and Intergraph ISIF files. User-defined translation parameters.
IBM PC ☐ Introduced: 1985 ☐ Cost: $1,500

DEMAND, INC.

☐ JU$TIFY
Designed to cost effectively assist companies in functionally and financially planning CAD/drafting projects. Uses standard cost benefit analysis to incorporate proper CAD-related costs.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 35 since 1985 ☐ Cost: $495

DIGITAL MATRIX SERVICES, INC.

☐ Digicad
Allows PC to act as precision engineering and drawing station. Supports 99 layers, library objects, drawing tools, edit/utility functions, various operating modes, dimensioning and surveying annotations. Includes Digibase graphics data base manager and Digitran graphics applications language.
IBM PC, XT, AT ☐ 640 KB req.

ECLAT, INC.

☐ ei:MicroSpec
Develops furniture, wall covering, lighting fixtures and mechanical parts data bases. Selects and specifies products, materials and services. Manages/schedules logistics. Inserts products/materials into design drawings. Maintains product inventory. Reallocates resources. Integrates with CAD, accounting and word processing programs.
IBM PC, XT, AT ☐ Cost: $2,000

ENGINEERING SERVICES

☐ ACAD
Provides 1, 2 and 3D CAD support for AutoCAD.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $2,500

ENGINEERING SYSTEMS CORP.

☐ Design Graphix CADD
3D. Features multiple layers and pens, geometrics, user-definable symbols and figures, editing, test fonts, dimensioning, BOM and automatic training, simultaneous plotting and telecommunications. Supports Tektronix 4000 and 4100 graphics and plotters by Hewlett-Packard, Calcomp and Houston Instrument.
IBM XT, AT ☐ 640 KB req. ☐ Copies sold: 2,500 since 1980 ☐ Cost: $1,500

EXPERT-EASE SYSTEMS, INC.

☐ EASE+Tools
Engineering workstation combining graphics, data management and generators for schematics, forms and reports. Includes plotting and statistical routines. Supports complex engineering codes running on minicomputers and mainframes.
IBM PC, AT ☐ 640 KB req. ☐ Copies sold: 25 since 1985 ☐ Cost: $8,000

FACTRON ELECTRONIC DESIGN AUTOMATION (EDA)

(division of Factron/Schlumberger)

☐ E.S.P (Expert Silicon Products)
CAE/CAD for VLSI design. Employs expert system and knowledge-based design technologies in custom hierarchical system. Handles chip design from concept to product test. Includes connectivity data base. Knowledge-based cell design and interactive design rule checking.
IBM PC ☐ Cost: $25,000 and up

FORESIGHT RESOURCES CORP.

☐ Drafix 1
Second generation CADD. Displays menu hierarchy and snap-mode options constantly. Includes 16 pen colors, 255 layers, 8 line types, 12 text fonts and 32 point marker types. Handles lines, arcs, circles, fillets and chamfers. Allows operations on selected drawing groups.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 1,500 since 1986 ☐ Cost: $295

FUTURENET CORP.

☐ Dash-Strides
Drawing file manager. Allows true hierarchical structured relationships between drawings, pinlists, netlists and BOM. Creates data base of schematics, netlists and parts list covering entire design.
IBM PC ☐ Cost: $800

GAV

☐ CADout
Drawing post processor giving AUTOCAD system photoplotter output capability for PCB design technologies. Builds library representation of design. Design rule checking parameters can be redefined and implemented. Includes CAD in (Gerber to AutoCAD), Photoplotter simulator, and GAV utilities.
IBM PC, XT ☐ Introduced: 1985 ☐ Cost: $500

GENERAL CAD/CAM INC.

☐ Micro-LINK
Allows 2-way graphics communication between micro- and mini-based CAD systems. Allows drafting and design functions performed on micro- to be passed to mini- and mainframe-based systems for detailing, analysis, number crunching, and interfacing to Drawing Management and Control Systems.
IBM PC ☐ Copies sold: 40 since 1986 ☐ Cost: $1,000

GENERIC SOFTWARE, INC.

☐ AutoDimension
Adds dimensions and legends to computer-generated drawings. Generates linear and angular dimensions, extension lines, leaders, labels and arrow heads.
IBM PC ☐ Cost: $50

☐ FirstCADD
Component libraries allow up to 256 components to be included on single drawing. Drawings can be transferred to GenericCADD, AutoCAD or MegaCADD.
IBM PC ☐ 256 KB req. ☐ Cost: $50

☐ Generic CADD
Draws points, straight lines, rectangles, regular polygons, circles, arcs, ellipses and curves. Accommodates 256 components per drawing. Measures length, angle and area. Performs edits, snaps, rubberbanding, rotate, rescale, plot spooling and zooms. Displays absolute, relative and polar coordinates.
IBM PC ☐ 256 KB req. ☐ Copies sold: 300 ☐ Cost: $100

GRASP, INC.

☐ PC-GRASP (General Robot Arm Simulation Program)
Allows modeling and multi-image display of 1-6 jointed robot. Includes PC-Arm PC-Hand and PC-Work. Analyzes manufacturing workcells. Evaluates and compares industrial robots.
IBM AT ☐ 512 KB req. ☐ Copies sold: 5 since 1985 ☐ Cost: $2,500

HAWORTH, INC.

☐ CADvantage
Generates drawings, proposals, specifications and documents. Provides library of products and pricing, elevation and plan view images and workstation images.
IBM PC, XT, AT ☐ Cost: $12,000

Drafix 1: The experts agree

For months we've been telling you that Drafix 1 delivers incredible CAD performance for only $295.

Now someone else agrees — the experts.

"Drafix 1 features a remarkable user interface that is easy to learn and use — perhaps the best on any CAD." *–PC Magazine*

EASY TO USE. We designed Drafix 1 so anyone can reach one-to-one productivity far more quickly than with other CAD software.

The entire menu hierarchy is on display all of the time so there's no searching, backtracking or memorizing required.

Snap-mode options are continually shown on the left screen border and can be selected on the fly by mouse or single keystroke. And roll-down menus give you instant access to the virtually unlimited drawing, display and editing options.

"Drafix 1 is more than most people will ever need and costs an order of magnitude less than a full copy of AutoCAD ($2,750)." *–PC Magazine*

POWERFUL FEATURES. Feature for feature, Drafix 1 offers all the 2-D CAD capabilities of the expensive programs such as AutoCAD 2.5. In fact, many features which were recently added to AutoCAD such as multiple colors and linetypes per layer, drawing ellipses and polygons, exploding a symbol and rotating, scaling, stretching and trimming objects have always been offered in the $295 Drafix 1 package.

Drafix 1 is a breakthrough in design that organizes sophisticated CAD functions into smooth, fast, accessible operations. You don't need to write or buy macros to take advantage of Drafix 1's power.

If you have an IBM PC or compatible and a graphics card you're ready to go.

Even if you already have AutoCAD, Drafix 1 is still a smart buy because we offer "OTTO", a Drafix/AutoCAD file exchange utility. This allows you to expand your design capacity for a lot less money and take advantage of applications software providing the DXF format.

And, since Drafix 1 is not copy protected, no special hardware locking devices are required.

"Undeniably the best CAD buy in town." *–PC CADD, A Buyer's Guide*

NEW DOTPLOTTER OPTION. Drafix 1 is even a better buy with the new Drafix DotPlotter utility which eliminates the need for expensive pen plotters.

It allows you to use your dot matrix printer or laser printer for high resolution hard copy output. You can print to fit or to scale, in landscape or portrait orientation and can even print a large drawing from multiple pages.

For the cost of a copy of AutoCad, Drafix 1 with the new DotPlotter option gives you an entire workstation.

"At $295 Drafix 1 is a steal." *–Architectural Technology*

A NO-RISK, TOTAL SOLUTION. Thousands of users have tried us and agree. And you can get an even better bargain by taking advantage of our low-cost Drafix CAD-Kit with options.

Buy the Drafix 1 with mouse for just $395. Or choose the digitizer solution you need and get the entire package for as low as $595. Our Kurta Series One pads offer an integrated power supply and exceptionally small footprint with active areas ranging from 8½"x11" to 12"x12" to 12"x17".

Whatever you decide you can't lose with our 30-day money back guarantee.

Use our toll-free number and any major credit card to order your copy of Drafix 1 today.

The experts call us the "best bet for affordable CAD." All it takes is $295 to draw your own conclusions.



Order Now! Call Toll-Free!

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Ext. 500

☐ **Drafix 1**	$295
☐ **Drafix 1** plus mouse	
Logimouse C-7	$395
Mouse Systems Field Mouse	$395
Torrington Manager Mouse	$395
☐ **Drafix 1** plus Kurta digitizer	
Kurta 8½ x11 Series 1	$595
Kurta 12x12 Series 1	$795
Kurta 12x17 Series 1	$895
☐ **Drafix DotPlotter** (high resolutions graphics dot matrix printer output)	$ 45
☐ **Drafix 1 Large Plot** (D & E size plotting capability)	$150
☐ **OTTO** (AutoCAD file exchange utility)	$ 95
☐ **Symbol Libraries**	
Architectural	$ 80
Mechanical Engineering	$ 80

Check, money order, Visa & MasterCard accepted. Dealer inquiries welcome.

FORESIGHT RESOURCES CORP.™

932 Massachusetts
Lawrence, KS 66044
913/841-1121

CIRCLE NO. 274 ON READERS SERVICE CARD

HITACHI AMERICA, LTD.
Computer Sales & Service Division

☐ **GM-1000**
Creates symbols and drawings, files them for reuse or merges them into design. Moves, copies or rescales.
IBM PC, XT, AT ☐ Cost: $1,950

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ **CADAM Drawing Viewing - PC/Industrial Computer**
IBM no. 5796-TBQ. Allows user to display CADAM drawing from diskette or hard disk attached to system. User may window and scale drawing as appropriate.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Cost: $750

☐ **Professional CADAM**
IBM no. 5669-193. Interactive 2.5D CAD for designers, draftsmen, engineers and other technical professionals. Creates production drawings with IBM 5080 Graphics System. Generates points, lines, circles, ellipses and splines. Shows interfacing components, subassemblies or drawing details concurrently to ensure compatibility. ANSI/ISO compliant.
IBM RT ☐ 2,000 KB req. ☐ Cost: $15,000

ICAM TECHNOLOGIES CORP.

☐ **CAM.DES**
Color or monochrome 2D CAD. Full dimensioning, scaling and layering. Keyboard and tablet input. Tektronix 4014 terminal required.
IBM PC, XT, AT ☐ 1,000 KB req. ☐ Introduced: 1985 ☐ Cost: $2,836 and up

☐ **CAM.PAC**
Full 2 1/2D CAD/CAM with IGES interface, APT output and interfaces at CL file level with CAM-POST, ICAM's Post Processor Generator. Handles design to NC tape. The APT output file may be enhanced with full 5 AXIS tool motions and sculptured surfaces by ICAM's CAM-APT-SURF.
IBM PC ☐ 1,000 KB req. ☐ Introduced: 1985 ☐ Cost: $12,250

IMSI

☐ **Designer**
Offers dimensioning, output scaling, gravity function, ellipses and elliptical arcs at any angle, and semi and quarter circle commands. Enlarges, rotates, copies, paints, zooms-in-on, undo and inputs text at any size, angle or location.
IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $249

JERGENS, INC.

☐ **CAD/CAM Tooling Data Base and Software Package**
Tooling and fixture design. Builds workholding fixtures using standard tooling components. Allows arranging and rearranging of components in any view.
IBM PC, AT ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $1,500

☐ **FixturePro**
Computer-aided fixturing for micros. Provides 1,800 standard tooling components and 4,000 drawings.
IBM PC ☐ Cost: $1,500

KELAR CORP.

☐ **Enhancedmenu**
Customizes existing menu of AutoCAD programs for use with PROJECAD. Creates Primavera drawings.
IBM PC ☐ 512 KB req. ☐ Copies sold: 100 since 1986 ☐ Cost: $195

KERN INTERNATIONAL

☐ **CAD-BASIC**
Creates 2D drawings. Stores, recalls and positions drawings on screen. Generates standard shapes such as arcs and circles, applies text and dimensions, scales and rotates drawings. Includes automatic curve fitting and semi-automatic dimensioning.
IBM PC ☐ 64 KB req. ☐ Cost: $120

☐ **Engineering Software for Microcomputers**
CAE and analysis. Tutorial shows creating drawings on a micro, attaching physical properties, 3D rotation, storing, recalling, and updating. Applications programs carry out mechanism simulation, fourier analysis and optimization matrix analysis.
IBM PC ☐ 48 KB req. ☐ Cost: $22

LANDCADD, INC.

☐ **E-Z Estimate**
Estimates drawings created by AutoCAD or paper drawings. Includes unlimited pricing alternatives for projects, cost editing, writing text files, inputting text files into AutoCAD drawings, user-defined subtotal categories and data reordering/addition/deletion. User-specified supplemental factors include labor, overhead and contingencies. Two-way scrolling of output.
IBM PC ☐ 256 KB req. ☐ Cost: $395

☐ **LandCADD**
Landscape architectural applications for AutoCAD. Includes Site Planning, Landscape Design, Irrigation Design and Takeoff/Estimating. Includes symbols library of trees, shrubs, ground cover, cars, people, rocks, tables and lights. Scales, rotates, copies and moves. Compatible with AutoCAD A/E/C.
IBM PC, XT, AT, 3270-PC ☐ 640 KB req. ☐ Copies sold: 500 ☐ Cost: $395-$1,095

LOVELACE LAWRENCE & CO., INC.

☐ **Commercial Parts Expert System For Design Standardization**
Design managers require classified files of parts and materials to guide designers in use of economic choices in new design. Standardization is readily achieved and audited using classified interactive file systems.
IBM PC ☐ Copies sold: 200 since 1979 ☐ Cost: $10,000

☐ **Designfile-Design Erector Set for Expert Systems Development**
Provides all designers with total recall of all existing designs. Parts are retrieved by shape descriptions and assemblies by function. Search leads to all similar designs on file for use, reuse or reference.
IBM PC ☐ Copies sold: 75 since 1979 ☐ Cost: $15,000

☐ **Materials Data Bank For Engineering, Manufacturing and Purchasing**
On-line interactive materials databanks are necessary to provide for effective control of variety of materials in use in product design. Materials file provides data on preferred types and sizes of materials for selected applications as determined by company standards.
IBM PC ☐ Copies sold: 100 since 1979 ☐ Cost: $5,000

MANUFACTURING AND CONSULTING SERVICES, INC.

☐ **Anvil-1000MD**
2D CAD/CAM generates isometric views and cross-sections. Draws points, lines, arcs, ellipses, chamfers, free-form and offset curves. Zooms, rotates, translates, mirrors, scales, and duplicates. Horizontal, vertical, parallel, radius, diameter, angle, baseline, chained and ordinate dimensions. Drafts at 1,024 levels in 32 colors.
IBM XT, AT ☐ 640 KB req. ☐ Introduced: 1984 ☐ Cost: $2,995

☐ **Anvil-4000**
Drafting base package provides user controlled environment, basic geometry, viewing and manipulation, family of parts, file management, production planning and drafting. Integrated functions include design/drafting, drafting/base NC and 3 and 5 axis NC machining.
IBM RT

MEGA CADD, INC.

☐ **Design Board Link**
Links Mega CADD's 3D design products with most 2D drafting packages including Autocad, Versacad and Cadplan. Transfers orthographic, axonometric, isometric, perspective, sectional and exploded views, and curved surfaces with user-specified resolution, with or without hidden lines removed.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $295

☐ **Design Board Professional**
Reviewed Feb 1986 p. 88.
Conceptual/schematic 3D design. Full 360 rotation; perspective, isometric, orthographic, and walk-through views; component libraries; free-form curved surfaces; hidden-line removal; .001 inch accuracy; and scaled drawing. Produces 3D/2D drawings with line plotters. Links to 2D drafting programs including Autocad, Versacad and Cadplan.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 2,000 since 1985 ☐ Cost: $1,750

META SYSTEMS, LTD.

☐ **Structured Architect**
Integrated graphics, analysis and documentation system based on ISDOS' Integrated Encyclopedia, a unified DBMS of processes, data and relationships. Draws and edits dataflow diagrams with zoom and pan across a virtual drawing surface.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Copies sold: 250 since 1985 ☐ Cost: $3,500

MICRO CONCEPTS, INC.

☐ **MicroConcepts Digitizing Overlay**
Drafts/edits drawings on AutoCAD systems. Features placement of text and dimensioning on different layers, insertion of standard and user-programmed shapes and parallel lines. Uses Osnap features. Fourteen standard hatch patterns accessible from overlay. 3D drafting. Polyline features.
IBM PC ☐ 512 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $235

MICRO CONTROL SYSTEMS

☐ **Advanced Space Graphics**
Designs, digitizes, transforms and dimensions complex, irregularly shaped objects in 3D. Connects x, y, and z points of wireframe drawing. Scaling, rotating and moving. Includes three simultaneous views and output to plotter or printer.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,500 since 1982 ☐ Cost: $1,495 and up

☐ **CADKEY**
Reviewed Jun 1986 p. 80.
Integrated 2D/3D CADD system for mechanical design drafting and front-end for NC and finite element analysis. Includes bidirectional IGES translator and 3D cubic parametric splines. Supports most digitizers and plotters.
IBM PC ☐ 512 KB req. ☐ Copies sold: 9,000 since 1984 ☐ Cost: $2,695

☐ **Space Tablet/Advance Space Graphics**
3D data acquisition and manipulation. Moves, points and modifies for specific applications. Arm indicates point of interest within drawing and physically pulls it and all connecting lines to location in 3 spaces.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,500 since 1982 ☐ Cost: $995-$1,495

MICRO DESIGN AUTOMATION, INC.

☐ **Ski Cap**
Schematic capture/netlist extraction for AutoCAD2 users. Schematic editor subsystem contains custom menus and script files that place and connect component symbols from symbol libraries. Optional menu tables available. Builds multiple page schematic diagrams. Netlist generation utility and linkage editor and postprocessor.
IBM PC ☐ 640 KB req. ☐ Copies sold: 2 since 1986 ☐ Cost: $1,500

MICRO-VECTOR, INC.

☐ **CADRover**
Finds and retrieves stored images from diverse picture sources. Organizes and controls drawings within visual data base environment. Features graphics translater which integrates CAD file formats and application tools.
IBM PC ☐ Cost: $495

MICROCAD, LTD.

☐ M.CAD/ME

3D CAD/CAM system for design and manufacturing in mechanical engineering and architecture. Full modeling with surface capabilities, data base management, drafting, 2-,3-,5- axis NC machining and solids modeling.

IBM AT ☐ 640 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $5,000

MICROCOMPUTER GRAPHICS, INC.

☐ CADD

Designed for symbolic schematic drafting and 2D to scale mechanical and architectural drawings. Supports mouse and keyboard for cursor movement and symbol placement or coordinate location. Infinite scroll and zoom in all directions. Auto-scroll and auto-zoom feature.

IBM PC, AT ☐ 384 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $895

MICROGRAFX, INC.

☐ PC CAD and Windowing

Produces drawings and designs. Includes windowing and multitasking capabilities for editing multiple documents or for drawing while printing hard copies. Standalone or integrates with Microsoft's Windows, Microsoft's Mouse is optional. Keyboard, light pen and joystick are available.

IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $495

NATIONAL SEMICONDUCTOR CORP.

☐ PLAN (Programmable Logic Analysis by National)

Tools for programmable logic designs. Enhancement for systems with National Semiconductor and Monolithic Memories, Inc. Programmable Array Logic (PAL) devices.

IBM PC ☐ 64 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $195

NORTH CAROLINA STATE UNIVERSITY RESEARCH CORP.

☐ CAD-PAC2

Design, analysis and drafting system. Displays explicit instructions, explains function syntax and prompts user's response. Applicable to mechanical analysis, manufacturing floor review, mainframe interface and archival and vendor design exchange.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $2,400

☐ CAD-REVU

Read-only module for CAD-PAC2. Uses CPTR (CAD-PAC2 Transfer Routine) to bring drawings from mainframe to PC for viewing, analysis or plotting.

IBM PC, XT, AT

PELTON ENGINEERING, LTD.

☐ ECAD Drafting Software

Data entry supported by keyboard, digitizer and mouse. Lines, circles, arcs, ellipses, curves, hatching and fill, BOM, data base links, drawing interchange files, panning, zoom, dimensioning, component libraries, arrays, file directory, plotting, calculations, and move and copy.

IBM PC, XT, AT ☐ 640 KB req. ☐ Introduced: 1984 ☐ Cost: $489

PENCEPT, INC.

☐ Pencad

CAD/CAM interface. Runs AutoDesk's AutoCAD on the Penpad 320 tablet. One input device combines text and graphics functions. Invokes series of commands for each handprinted letter on tablet. Enters text onto tablet without moving to keyboard.

IBM PC, XT, AT ☐ 384 KB req. ☐ Cost: $195

PERSOFT, INC. (WI)

☐ SmarTerm 4014

Uses PC as graphic terminal to connect to CAD/CAM mainframe graphics packages such as SAS/Graph, Tellagraph, RS/1, Disspla and Plot-10. Emulates Tektronic 4010, 4012 or 4014 graphics terminal, or DEC VT100, VT102 or VT52 intelligent text terminal.

IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 627 since 1985 ☐ Cost: $225

QDP COMPUTER SYSTEMS, INC.

☐ Quickcad

Configures/designs shape library for architectural, mechanical drafting and interior designs. Circuit board design shape library available. Allows high-speed drawings on large monitors utilizing QDP's Viva 1024 X 1024 hi-res gold card.

IBM PC ☐ 512 KB req. ☐ Copies sold: 25 since 1986 ☐ Cost: $995

RCT DESIGN

☐ Cadalog Image Filer

Provides DBMS functions for storage, retrieval, and documentation of drawing elements created using CAD methods. Interfaces with AutoDesk's AutoCAD.

IBM PC ☐ 128 KB req. ☐ Cost: $300

RENISHAW-MAE

☐ MAECAD

Interactive 2D drafting, 3D wireframe and solids modeling. Optional parameters design module.

IBM XT, AT ☐ 512 KB req. ☐ Copies sold: 250 since 1981 ☐ Cost: $5,000-$10,000

ROBO SYSTEMS CORP.

☐ CAD-PC

High speed, icon-based CAD program. Features rubberbanding of all drawing elements, smooth dragging of symbols, fillets of lines and arcs, tangents from circle to point and circle to another circle, cross-hatching and partial erase of all elements. Measures lines, circles and arcs on display as they are drawn.

IBM PC ☐ 640 KB req. ☐ Introduced: 1986 ☐ Cost: $1,495

ROSAL SYSTEMS, LTD.

☐ Field Based Design System

CAD. Performs road and canal designs. Generates multiple horizontal and vertical alignments which can be displayed with stationing on AUTOCAD. Generates cut and fill volumes. Produces final cross-section and plan profile drawings.

IBM PC ☐ 640 KB req.

SUN-FLEX CO., INC.

☐ Bill of Materials Reporting System

Allows AutoCAD 2 users to turn drawings into project management reports, based on parts information stored in BOM Report System. Reports include job cost, materials requirement and bid estimation. Reports are based on AutoCAD attribute extraction file.

IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $500

TECHNICAL SOFTWARE, INC.

☐ AUTOWORD

Integrates Autodesk's AutoCAD, with word processors to text in drawing. Supports automatic drawing schedule generation, superscripts and subscripts.

IBM PC ☐ 64 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $100

TERAK CORP.

☐ Micro Minn-Draft

3D data base. Digitizer. Drafting features include overlay layers, dimensioning, zoom, and project, translate, rotate, and copy operators. Provides hi-res of 640 x 480 x 2 monochrome or 640 x 480 x 6 color.

IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 40 since 1984 ☐ Cost: $2,995

TEXAS INSTRUMENTS

☐ AE/CADD

Set of template-driven drafting commands for use in conjunction with Autodesk's AutoCAD. Template contains various symbols and objects commonly used by architect. Decrease time designer spends drawing and re-drawing architectural renderings.

IBM PC ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $1,000

T & W SYSTEMS, INC.

☐ EasyCAD

Includes full-precision floating point data base. Features associative dimensioning, object grouping ability, drag function and connect feature that combines move, scale and rotate. Editing, curve and infinite zoom capabilities. Allows file interchange with VersaCAD and AutoCAD.

IBM PC, XT, AT

☐ VersaCAD - Entry Level

Graphics input devices range from joystick to graphics tablet. Designer aids included. Auto-dimensioning, zoom, scaling and snap-to.

IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 2,100 since 1984 ☐ Cost: $495

☐ VersaCAD-Advanced

Manipulates collections of objects as a group. Moves, rotates, copies, scales, mirrors images at any angle. Calculates center of gravity, moment of inertia, perimeter, area and component dimensions. Polygons, ellipses, free-form (Bezier) curves and points. Update function.

IBM XT, AT ☐ 512 KB req. ☐ Copies sold: 4,000 since 1985 ☐ Cost: $1,995

☐ VersaDATA

Relational data base integrated with VersaCAD Advanced. Allows 2-way interaction between data base and drawings on graphics screen. User-created single-page form layouts. Creates data base masks to act as templates. User-formatted reports.

IBM PC

UNIRAS, INC.

☐ RASPAK-CAD

Solids modeling system. Transforms 3D designs into solid color models with smooth shading and artificial light source. Produces 3D graphics with hidden surface removal and light shading.

IBM RT, AT

UNIVERSAL INTERGRAPHIX CORP.

☐ 3-D GRAPHIXX

Full function 3D design and production drafting system with colors defined by line, geometrics, line/plane intersections, figures, notations, perspectives, real-time animation, round-off/snap to, scaling, fillets, splines, crosshatching, pan and zoom, windows, 256 layers, auto-dimensioning, and text import/export.

IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 835 since 1984 ☐ Cost: $3,995

VECTRIX CORP.

☐ Quickzoom

Works with AutoCAD. Accesses hardware pan and zoom features of Pepe Graphics Board without exiting AutoCAD.

IBM PC, XT, AT

VIRGINIA TEK, INC.

☐ Autorout 20

Router/programming system.

IBM PC ☐ 64 KB req. ☐ Copies sold: 16 since 1981 ☐ Cost: $10,000

VISUAL NUMERICS, INC.

☐ AutoLIB

Block manager and librarian for AutoCAD. Supports multiple libraries. Drawing library file includes 1,500 elements, each with 360-character description and WordStar-like editor. Draws borders, labels and tables. Summary files list descriptions, block names, linetypes, layers, styles and shape files.

IBM PC, XT, AT ☐ Cost: $149

WEST COAST CONSULTANTS

☐ Curve Digitizer
Creates, edits, and plots 2D drawings using computer's numeric keypad and/or sequential data files. Digitizes X, Y coordinates from any diagram placed on plot bed. Drawings and symbols dynamically positioned with keypad controlled cursor. Thirty-three manipulative edit modes.
IBM PC ☐ 256 KB req. ☐ Cost: $400

☐ Curve Perspective
Displays arrangement of objects in orthographic or perspective projection from any point in space. User can describe complex geometries by using interconnecting line segments, planes, arcs, circles, cones and cylinders. Translates, rotates and scales.
IBM PC, XT, AT ☐ 48 KB req. ☐ Cost: $450-$650

YOURDON CORP.

☐ Analyst Toolkit
Provides dataflow, entity relationship and state transition diagrams and free-form graphics. Includes data dictionary, diagram extraction facility, data base manager, error checking and compose facility for combining text and graphics.
IBM, PC, XT, AT

ELECTRONIC MAIL

ACTION TECHNOLOGIES, INC.

☐ Coordinator
Electronic mail system.
IBM PC, XT ☐ 512 KB req. ☐ Copies sold: 2,200 since 1985 ☐ Cost: $695

APPLIED DATA RESEARCH, INC.

(an Ameritech Co.)

☐ PCeMail
Interfaces Datacom DB, Empire and ETC for document distribution. Acts as a pipeline to move information from PCs to mainframe network for distribution.
IBM PC, 3270-PC ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $195

APPLIED MICROS, INC.

☐ SYMON
Electronic help desk provides on-line data processing system status. Displays messages to users up to 150 feet away via LED display. PC acts as message controller to enter, store and distribute messages.
IBM PC ☐ 512 KB req. ☐ Copies sold: 800 since 1985 ☐ Cost: $1,295 per display

BEAMAN PORTER, INC.

☐ PowerNet
Designed for use with PowerText word processing. Provides unattended electronic mail and terminal operation. Implemented only for Hayes Smartmodem boards and external Smartmodems.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $200

CAPPCOMM SOFTWARE, INC.

☐ MAIL CALL
Enables PCs to send and receive telexes and electronic mail. Incorporates word processors to create messages off-line. Designated for either Western Union's EasyLink, MCI Mail, AT&T Mail or ITT TIMETRAN. Features archive organization and control, itemized batch transmission, message tracking and ability to dial into systems.
IBM PC ☐ 128 KB req. ☐ Copies sold: 250 since 1983 ☐ Cost: $150

COMMNET SYSTEMS

☐ FoReM PC
Bulletin board system with message editor. Checks for messages to or from user. Reads flagged or marked messages. Email distribution lists. Supports multiple data bases. Supports Xmodem, Amodem Kermit and Kermit batch files. Includes 255 access levels.
IBM PC ☐ 384 KB req. ☐ Cost: $100

COMPUTER TECHNOLOGY ASSOCIATES, INC. (CTA)

☐ Teamwork
Mailbox maintenance, address lookup, scheduling of delivery, acknowledgement and reply tracking, and logging incoming and outgoing mail. Retrieves large documents, graphics, spreadsheets and data bases. Password protection. Unattended operation. User directory. Library of customized forms. LAN configurable.
IBM PC, XT, AT, 3270-PC

CROSS INFORMATION CO.

☐ Cross/Point
Electronic mail system with computer teleconferencing, computer conferencing or thought processing. Includes bulletin board, on-line messaging and windowing.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $50

CYGNET TECHNOLOGIES, INC.

☐ Get
Accesses 7 mail services to check for messages without interupting work-in-progress. Checks for mail at user-selected interval.
IBM PC ☐ Cost: $90

DIGISOFT COMPUTERS, INC.

☐ Mail-COM
Accesses MCI Mail system and sends mail from computer. Sends programs, Lotus spreadsheets or other files with error checking. Scrambles confidential mail. Includes built-in word processor. Reads WordStar letters.
IBM XT ☐ 64 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $190

GENERAL ELECTRIC INFORMATION SERVICES CO. (GEISCO)

(subsidiary of General Electric Co.)

☐ PC Mailbox
Accesses GE Information Service's QUIK-COMM global electronic mailbox service. Creates, stores and organizes messages off-line. Operates unattended. Serves as terminal for on-line access to data base.
IBM PC ☐ Cost: $189

HEWLETT-PACKARD CO.

☐ Message for the IBM PC
Electronic mail system. Communicates with HP Desk Manager on HP 3000. Document conversions for integration of PC and HP 3000 word processing.
IBM PC ☐ Cost: $300

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Personal Communications Manager
Reviewed Aug 1984 p. 155.
IBM no. 6024-100. Includes electronic mail over standard telephone lines, terminal emulation with functions to access information services and edit file facility to create or edit mail. Sends and receives letters, memos and such DOS-based files as spreadsheets, charts and graphs.
IBM PC, XT, PCjr ☐ Cost: $100

☐ RT PC INmail/INnet File Transfer Program
IBM no. 5669-053. Provides queued transfer of files and interactive engineering of commands to be executed on remote systems. Sends mail to one or more users and one or more mailing lists. Forwards mail. Sends messages interactively. Appends messages to secondary mailboxes. Exchanges mail on separate but interconnected systems.
IBM RT PC ☐ Cost: $625

INSTANT INFORMATION, INC.

☐ Instantcom AR
Allows background communications. Provides message sending, receiving or dial-out to mailbox while running foreground applications. Prints and archives on-line sessions. PC buffering provides session scan, print and write-to-disk functions. Keyboard toggling to background/foreground.
IBM PC ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $69

☐ Instantcom ESL
Accesses Western Union's Easylink. Offers error checking and data compaction. Auto-dial and auto-log on to Easylink. Formats messages. Prints and archives on-line sessions. Built-in word processor or imports other word processing files. Includes general communications module.
IBM PC ☐ 256 KB req. ☐ Copies sold: 3,000 since 1983 ☐ Cost: $120

INTERACTIVE SYSTEMS CORP. (CA)

☐ INmail
User can reply to/forward/print messages and review past correspondence. Moves messages between primary and supplemental mailboxes. Includes subject, sender, recipient ID and date in messages.
IBM RT, AT/AIX, PC/IX

☐ INnet
Provides queued transfer of electronic messages/files. Includes message manipulation features of Interactive's INmail. Includes remote-copy, remote-mail and remote-print facilities. Supports dedicated/dial-up, sync/async connections. X.25 packet switching protocol support available.
IBM RT, AT/AIX, PC/IX

INTERMATION CORP.

☐ Electronic Mail
Electronic mail system compatible with CT*OS. Management communications system includes directory of users, log of communications, acknowledge and nudge capability. Transfers any file on system. Creates and reads messages with word processor.
IBM PC ☐ 30 KB req. ☐ Copies sold: 2,500 since 1982 ☐ Cost: $20,000

MARTIN MARIETTA DATA SYSTEMS

(operating company of Martin Marietta Corp.)

☐ MailIT
Document conversion and transfer program that facilitates electronic mail and other office automation tasks for companies with IBM mainframe electronic mail systems. Translates documents prepared using PC-based word processors such as WritIT or MultiMate into IBM mainframe format.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 800 since 1985 ☐ Cost: $300

MCI COMMUNICATIONS CORP.

☐ Mail Access
Connects user to MCI Mail. Sends text files created by work processing. Spreadsheets and DBMS. Features data encryption. Learn feature accommodates log-on and retrieval sequences.
IBM PC ☐ 128 KB req. ☐ Cost: $50

MCTEL, INC.

☐ Electronic Envelope
Formats binary data to make it appear to electronic mail systems as ASCII text. Exchanges spreadsheets with workers in different locations for collaboration on budget forecasts, financial reports, and what-if analyses.
IBM PC ☐ 32 KB req. ☐ Copies sold: 2,700 since 1985 ☐ Cost: $50

MICRO-SYSTEMS SOFTWARE, INC.

☐ BBS-PC
Electronic bulletin-board. Supports electronic mail, binary or ASCII file transfers. Includes message reformatting to caller's terminal, permanent user records, and message transfer system that creates files accessible only by addressee or sysop. Supports message threading. DOS gateway.
IBM PC ☐ 256 KB req. ☐ Cost: $249

MICROPRO INTERNATIONAL CORP.

☐ TelMerge

Electronic mail service. Integrates telecommunication into WordStar environment, Mail services include EasyLink, MCI Mail, Ontyme Messaging Service, TELEXTRA and TIME-TRAN. Speaks with such executive information services as CompuServe, Dow Jones News/Retrieval, Official Airline Guides Electronic Edition and The Source.

IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $145

MODEM CONTROLS, INC.

(division of Generation 3, Inc.)

☐ Channel One

Recognizes modem type and incoming baud rate, analyzes active communications ports and provides hang-up recovery. Includes electronic copying and user-defined mailing lists. Transfers data, program and spreadsheet files without need for conversion. Provides 9 security levels.

IBM PC, XT ☐ 320 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $495

NBI, INC.

☐ Oasys Mail

Attaches five documents to each message. Three levels of security. Accesses messages by providing recipient's name or initials. Sends messages to individuals or to standard distribution lists. Messages may be viewed, edited and forwarded. Provides electronic filing cabinet.

IBM PC ☐ Cost: $7,500

NETWORK TECHNOLOGIES INTERNATIONAL, INC.

(division of NETI Technologies, Inc.)

☐ eForum

Electronic meeting system. Works like electronic mail, but for groups. Organizes, indexes, files and leaves written record of entire meeting. Gives user time to think before responding. Allows geographic or time zones. Determines who can attend meeting.

IBM PC ☐ 185 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $150

OMNI COMPUTER SYSTEMS, INC.

☐ Flash+4

Integrated electronic mail system. Prepares mail for first/second/third class with mailing statements as per postal requirements. Provides on-line and batch inquiry of 9 digit zip codes and carrier route numbers. Includes word processing/forms manager.

IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 1 since 1986 ☐ Cost: $550-$25,000

☐ Flash-Com

Electronic mail and mailing list management. Interfaces with word processing, text editor and modeling software, built-in forms creation, management and file handlings and interfaces with over 20 other carriers.

IBM PC, PCjr ☐ 128 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $300

ORCHID TECHNOLOGY, INC.

☐ PCnetMAIL

PCnet-based store-and-forward electronic mail system. Stores messages on hard disk until designated recipient requests their delivery. Can send data over domestic and worldwide phone lines and within single office network. Recognizes networks via host table. Includes error correction.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $595

PAIR SOFTWARE

☐ Electronic Mailman

Allows use of E-COM format electronic mail carriers.

IBM PC ☐ 256 KB req. ☐ Cost: $100

PCC/SYSTEMS (PROFESSIONAL AND CORPORATE COMMUNICATIONS)

☐ cc:Central

Turns PC connected to telephone network into file server that acts as central electronic mail clearing house. Integrates with cc:Mail for Modems.

IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $495

☐ cc:Mail for LANs

Text, graphic and file electronic mail program. Sends electronic envelopes containing contents of PC screen to another PC or LAN. Messages include graphics screen output from other applications, DOS file contents and text.

IBM PC ☐ 320 KB req. ☐ Introduced: 1985 ☐ Cost: $995

☐ cc:Mail for Modems

Text and graphic electronic mail program. Sends electronic envelopes containing text, graphics, files and contents of user's PC screen to remote PC, central PC or LAN. Includes graphics screen output from other applications, DOS file contents and text.

IBM PC ☐ 320 KB req. ☐ Introduced: 1985 ☐ Cost: $295

PERSONAL COMPUTER SUPPORT GROUP, INC.

☐ Logon+

Electronic mail functions to review messages, leave messages and access files.

IBM PC ☐ 24 KB req. ☐ Introduced: 1983

PROTOSOFT

☐ Idea-Tree

Bulletin board/message system. Supports general/private message entry and retrieval, file transfer, uploading/downloading, file directory, message archiving and DOS interface. Enters/reads messages under user-created topics allowing discussions to take place simultaneously. Locates specific data.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 5,400 since 1983 ☐ Cost: $89

QUADRATRON SYSTEMS, INC.

☐ Q-Mail

Electronic mail. Component of QSI's Q-Office. Provides network capability between users and hardware. Sends message, document or file to a person or list of persons in directory, independent of UNIX machine. Can be used to annotate received document or add attachment or another document.

IBM PC ☐ 128 KB req. ☐ Copies sold: 75,000 since 1982 ☐ Cost: $1,520-$1,960

I. P. SHARP ASSOCIATES, LTD.

☐ Mailbox

Electronic mail system allowing communications between two or more people without regard for location. Includes individual or group addresses, ability to append, carbon copy and put messages to file, classification of messages and confirmation of receipts and editing or withdrawing texts. Available in 800 cities.

IBM PC ☐ Copies sold: 6,000 since 1972 ☐ Cost: $60

SOFTWARE CONNECTIONS, INC.

☐ LAN: MAIL MONITOR

LAN oriented electronic mail. Includes file transfer and message sending. Sends letters and data files to remote users over telephone lines. Screen-oriented editor and standard letter form are provided. Mail is kept confidential with mail box passwords.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $745-$1,195

TANDEM COMPUTERS, INC.

☐ PS Mail

Distributed electronic mail with built-in instructions, directory of other users, forward and reply, user-specific distribution lists, assured delivery, delivery certification, facsimile and PC document delivery, filing and retrieval, resource utilization, vacation feature and editor.

IBM PC ☐ Cost: $1,000-$2,000 plus $100-$200 monthly license fee per processor

TANGENT TECHNOLOGIES

☐ Mailbox

Delivers information between IBM PCs and Apple Macintosh. Sends memos, reports, files, spreadsheets and graphics.

IBM PC ☐ Cost: $595

TEXAS INSTRUMENTS

☐ EtherMail Server Kit

Sends electronic messages over Ethernet network. Requires EtherLink board and EtherShare Server Kit.

IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $595

☐ EtherVoice

Addition to EtherMail. Provides voice recorder in high quality and normal quality mode. Appends up to 8 minutes of messages to test message in normal quality mode.

IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $150

3COM CORP.

☐ EtherMail

Reviewed Jan 1984 p. 55.

Electronic mail system. Messages created with screen-oriented message editor. Attachment files containing text, programs or data may be sent with any message. Serves as method of transferring files among PCs. Up to 26 DOS files may be sent to all recipients.

IBM PC ☐ 192 KB req. ☐ Cost: $395

☐ 3+Mail

Allows network users to exchange messages, route messages between networks and to remote PCs. Includes message editor. Tracks conversations. Stores/preserves messages. Works with 3+Remote and Route.

IBM PC, XT, AT ☐ 320 KB req. ☐ Introduced: 1986 ☐ Cost: $250

TITN, INC.

☐ Twice MHS X.400

Message transfer protocol exchanges mail between electronic mail servers. Interfaces to Twice ISO or Twice X.25/X.29. Conforms to CCITT recommendations.

IBM PC ☐ 128 KB req. ☐ Introduced: 1985

TRANSEND CORP.

☐ PC Complete

Supports electronic mail, file transfer, terminal emulation, word processing, filing, DOS shell, windowing, address book, macro scripts, X-Modem, VT-100 and unattended operation.

IBM PC ☐ 256 KB req. ☐ Copies sold: 15,000 since 1983 ☐ Cost: $229

WESTERN UNION TELEGRAPH CO.

(subsidiary of Western Union Corp.)

☐ Easylink Instant Mail Manager

Communication, word processing and data base for addresses.

IBM PC ☐ 256 KB req. ☐ Copies sold: 12,000 since 1984 ☐ Cost: $150

ELECTRONICS/ ELECTRICAL ENGINEERING

AFTERTHOUGHT ENGINEERING

☐ Wiremaster

Generates wire lists for wire-wrap circuit board, network maps, cross-references, parts lists, and debugging checklists. Inputs from schematic entered via text editor.

IBM PC ☐ 47 KB req. ☐ Copies sold: 500 since 1981 ☐ Cost: $195-$295

ANALOG DESIGN TOOLS

☐ **PC Workbench**

CAE Workstation for analog circuit design. Includes schematic entry, editing, analysis, instrument display, parameter entry with subcircuits and sample device library. Optional modules include Basic Device Library, General Device Library, Statistical Analysis, Parametric Plotting, Power Design and Smoke Alarm.

IBM PC, AT ☐ 512 KB req. ☐ Introduced: 1986 ☐ Cost: $12,500 and up

ANIMAT/USA

☐ **PCB Analysis**

Projects design, cost, fabrication and manufacturing parameters of PCBs. Reports integrated circuit equivalent, density and feasibility of design, specifically defining level of difficulty and success using 2, 4, 6, 8 or 10 layer boards. Includes 5 utilities for printing, storage and retrieval.

IBM PC ☐ Cost: $99

☐ **SMT Design Analysis**

Projects design feasibility of SMT project and establishes fabrication requirements, manufacturing techniques and design parameters.

IBM PC ☐ Cost: $695

BV ENGINEERING

☐ **ACNAP**

Electronic circuit analysis program that analyzes passive and active circuits consisting of resistors, capacitors, inductors, transistors, operational amplifiers and FETs. Analysis capacity of 200 components and 30 nodes in single pass. Performs Montecarlo analysis, sensitivity analysis and noise equivalent bandwidth.

IBM PC ☐ 62 KB req. ☐ Copies sold: 2,000 since 1982 ☐ Cost: $70-$80

☐ **Actfil**

Filter design and synthesis program. Designs low, high, and band pass, high pass, and band reject filters. Computes number of stages, transfer function coefficients, magnitude, phase, and time delay characteristics for infinite gain multiple feedback and voltage controlled source implementations. Chebychev or Butterworth response.

IBM PC ☐ 62 KB req. ☐ Introduced: 1985 ☐ Cost: $70-$80

☐ **COMCALC**

Spreadsheet-like design tool for radio communications system designer or user. Enters components such as transmitter power, frequency, transmission path attenuation, and receiver noise figure. Display's system's performance characteristics.

IBM PC ☐ 60 KB req. ☐ Introduced: 1986 ☐ Cost: $73

☐ **DCNAP**

DC circuit analysis program which analyzes passive and active resistors, voltage sources and dependent and independent current sources. Analysis capacity of 30 nodes and 200 components. Performs sensitivity analysis and worst case voltages. Built-in editor.

IBM PC ☐ 56 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $70-$80

☐ **Locipro**

Root locus program containing integrated routines which analyze transfer functions derived from block diagrams of linear control loop systems. Computes the composite closed loop transfer function. Root movement as a function of gain is then computed. Supports free format input and simple editing.

IBM PC ☐ 48 KB req. ☐ Introduced: 1985 ☐ Cost: $70-$80

☐ **Matrix Magic**

Matrix manipulation and test program. Up to 20 rows by 20 columns. Manipulates entire matrices. Performs operations on a matrix or matrices such as inverse, adjoint and eigenvalues. Performs tests on a matrix or matrices and tells user whether a matrix is Skew-Hermitian, Tridiagonal or Jordan Canonical.

IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $70-$80

☐ **PCPlot**

Hi-res graphing program makes pixel-resolution screen and printer graphs for scientific and financial purposes. Creates linear, semi-logarithmic, and full logarithmic plots in any combination of *x* and two *y* axes. Forced scaling and autoscaling are supported. Grid lines may be specified for linear, semi-logarithmic, logarithmic, and financial data.

IBM PC ☐ 128 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $70

☐ **Plotpro**

Creates linear, semi-logarithmic, and logarithmic plots with one or two Y axes, and plots multiple functions on the same graph. Forced scaling, autoscaling, and optional grid lines are supported. Works with any printer and computer.

IBM PC ☐ 48 KB req. ☐ Copies sold: 1,500 since 1983 ☐ Cost: $70

☐ **SPP**

Signal processor for analyzing linear and non-linear systems and circuits and their effects on user-specified time domain waveforms. Compatible with BV's ACNAP, PLOTPRO, PCPLOT, PDP, and TEKCALC programs.

IBM PC ☐ 48 KB req. ☐ Copies sold: 1,500 since 1982 ☐ Cost: $70-$80

☐ **Stap**

2D steady state heat transfer program with particular emphasis placed on the analysis of heatsinks in the electronic packaging field. After entering the heatsink properties and heat input characteristics, the steady state temperatures at all nodes are calculated, displayed, and saved to a disk file.

IBM PC ☐ 62 KB req. ☐ Introduced: 1985 ☐ Cost: $70

☐ **XFER**

Uses short circuit transfer impedance functions around an operational amplifier to compute circuit element values and circuit configurations which synthesize desired transfer functions. Supports different circuit configurations and magnitude and phase calculations.

IBM PC ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $73

CASE TECHNOLOGY, INC.

☐ **CT1000 CAE Design System**

Design creation, analysis and physical layout. Includes structured graphics editor, structured computer-aided logic design (SCALD) hardware compiler, firmware compiler, hard-copy post processor and cross-reference generator. Generates netlist and parts list. Outputs to PCB layout, SCALD timing verifier or SILOS/CADAT logic simulators.

IBM PC, XT, AT ☐ Cost: $5,200

☐ **PCB Layout System**

Component of CT1000 CAE Design System. Creates, edits and documents physical drawings to build PCB. Integrated/layout editors. Interactive rat's nest capability. Supports multiple signal layers. Performs back annotation, dynamic rubber banding/editing, parts placement, packaging and pin/part swapping.

IBM PC, XT, AT ☐ Cost: $4,250

☐ **Timing Verifier**

Component of CT1000 CAE Design System. Verifies digital design timing parameters and circuits. Based on SCALD timing verifier. Analyzes worst-case timing. Detects set up and hold errors. Verifies complete/partial designs. Checks interface specifications. Signal behavior summary. Estimated/actual wire delays.

IBM PC, XT, AT ☐ Cost: $3,500

CHANCELLOR COMPUTER CORP.

☐ **Netlist Extractor**

Extracts netlist from Symgraph schematic data base. Used as input to simulators. Expands schematic symbols containing lower level design description. Performs error checking. Assigns names to nets within circuit. Nine attributes associated with any symbol.

IBM PC, XT

☐ **Symgraph Schematic Editor**

Schematic entry and symbol creation. Hierarchical writing editor supports designs at gate and device levels. Parameters and attributes for simulation associated with symbols. Commands entered via mouse or tablet pointing device.

IBM PC, XT

CONTROL DATA CORP.

☐ **Cybernet Express Electronics Designer System**

Schematic entry, pan and zoom, naming and ID and rubber banding functions. Multiple windows. Buss-through points. Multiple-width components. Color support. Keystroke macros. Digital simulation (SALT), behavioral simulation (VERILOG), analog simulation (MicroASPEC), model parameter extraction (MicroOPTIMOS) and waveform analyzing (OCEANVIEW) functions.

IBM PC, XT ☐ Introduced: 1984 ☐ Cost: $7,500

☐ **Cybernet Express Piping Workstation**

IBM PC, XT, AT

☐ **Cybernet Express Power Systems**

IBM PC, XT, AT ☐ 512 KB req.

☐ **Cybernet ExpressED-Layout**

Creates, edits and documents drawings for building PCBs for electronics engineers. Utilities for placement of board parts, rat's nest generation of signal layout and pin-to-pin signal routing. Includes 2,500-part mil-spec component library, digital logic simulator, analog simulator, mil-spec 217 reliablility prediction and optimal analog model generation.

IBM PC, XT, AT ☐ Cost: $4,250

COOLIDGE & ASSOCIATES

☐ **Lighting Calculations**

Given room dimensions reflectance and light level, the number of fixtures are calculated by the zone cavity method.

IBM PC ☐ Cost: $100

DASOFT DESIGN SYSTEMS, INC.

☐ **Dasoft-PC2**

Schematic generation package. Includes a component library and a library editor for user-expansion of parts data base. Creates up to 32 schematic pages, sizes A through E. Net list and parts list are generated. Drawings can be plotted on an X-Y pen plotter.

IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $3,495

DATATRAK

☐ **Designpro**

Indoor Lighting, Electrical Outlet, Branch Circuit, and Power Panel programs. Evaluates for California Energy Commission compliance. Determines footcandle requirements, fixture quantities, electrical loads, installation materials, voltage drops, resistive and motor circuit materials and minimum-size circuit breakers, wiring and supply transformers.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 50 since 1982 ☐ Cost: $1,995

☐ **Estmat**

Electrical estimating. Length and Count Probes take off blueprint specifications and accept any architectural or engineering scale. Allows user to revise extensions. Records vendor quotes, subcontractors' bids, miscellaneous expenses, and taxes and bonds. Calculates bid proposal. Conforms to traditional takeoff methods.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 600 since 1977 ☐ Cost: $5,450

MARCEL DEKKER, INC.

☐ **Transformer & Induction Design Software**

Designs transformers for square or sine wave with up to 10 secondary windings, each of which may be center topped. Designs inductors with vion alloys, ferrites and molypermalloy powder cores, dc or ac.

IBM PC ☐ Cost: $89

DRACO TECHNOLOGY

☐ **PC-Layout**
Creates double-sided PCB artwork of up to 21-inch square. Uses color artwork editor. Produces final artwork, solder mask and silk screen using printer or plotter.
IBM PC ☐ Cost: $745

DUBERT INTERNATIONAL, INC.

☐ **Atlas Tutor**
Trains engineers and technicians to generate ATLAS code. Generates 54 verbs and 53 nouns in IEEE-716 Standard. Step-by-step sequence leads through statement generation process. Stores each statement constructed in user-defined file, linked together in numerical sequence.
IBM PC ☐ 192 KB req. ☐ Copies sold: 40 since 1984 ☐ Cost: $400

DYNACOMP, INC.

☐ **ACAP (Active Circuit Analysis Program)**
Calculates node voltages, analyzes discrete components. User enters circuit in algebraic form, edits and saves description on tape/diskette.
IBM PC ☐ 48 KB req. ☐ Copies sold: 3,000 ☐ Cost: $40-$47

☐ **Digital Filter**
Designs filter functions or chooses from menu of filter forms. Converts filter forms into non-recursive convolution coefficients. Frequency transfer function shape specified by entering points along desired filter curve. Includes plotting, display, data storage, retrieval and editing.
IBM PC ☐ 16 KB req. ☐ Copies sold: 4,000 ☐ Cost: $50-$57

☐ **Engineering Collection No. 1**
Library of routines to deal with convolution, number conversion, reactor simulation, control system simulation. Creates antenna, bode, fourier and S and P plots.
IBM PC ☐ 48 KB req. ☐ Copies sold: 1,000 ☐ Cost: $40-$43

☐ **Engineering Sketchpad**
Draws on 5,000-point Cartesian coordinate system in preparation of transistor, resistor and desk drawings. Rotates, mirrors, inverts, expands and contracts. Drags about structures. Stores individual drawings to be included in new drawings.
IBM PC ☐ 128 KB req. ☐ Cost: $30

☐ **Ladder Network**
Cascaded 2-port network description, independently from load to source in data file generated by program prompts. Reads element type and value, generates ABCD matrix describing transfer characteristics. Matrices of complex numbers capacitors, resistors, inductors and transmission lines.
IBM PC ☐ 32 KB req. ☐ Cost: $30-$34

☐ **Logic Designer**
Digital hardware design. Obtains solutions of combinational logic problems having 2 to 8 input variables. Prompts for user-defined truth table and reduces input data into 2 boolean equations. Either equation converted into digital hardware.
IBM PC ☐ 16 KB req. ☐ Copies sold: 600 ☐ Cost: $35-$38

☐ **Micro-Cap II**
Provides bi-polar, opamp and transmission line models. User-defined macros.
IBM PC ☐ 48-256 KB req. ☐ Cost: $100-$800

☐ **Microcomputer Circuit Analysis Program**
Draws electronic circuit diagram on screen. Runs time-domain simulation of circuit responding to user-defined input sources. Performs AC bode analysis showing gain and phase shift vs. frequency. Performs DC transfer characteristic analysis showing output voltage vs. input voltage.
IBM PC ☐ 128 KB req. ☐ Cost: $400

☐ **Microcomputer Circuit Analysis Programs**
Circuit diagram design and time-domain simulation. Performs AC bode analysis. DC transfer characteristic analysis. Cursor adds/deletes components. Input drawn/keyed diagram/description/standard components library. Out to CRT or graphics bode/DC analyses, diagram, waveform graphics/plots and tabular listings.
IBM PC ☐ 64 KB req. ☐ Copies sold: 10,000 ☐ Cost: $400

☐ **Microcomputer Logic Design Program**
Logic diagram design and timing simulation. Keyboard cursor adds/deletes gates. Prepares netlists for simulation. Input macro network, drawn logic diagram, keyed-in network, signal source and patterns, gate truth tables and characteristics and clock wave forms. Outputs reports and listings.
IBM PC ☐ 64 KB req. ☐ Copies sold: 12,000 ☐ Cost: $400

☐ **Ohm's Law**
Solves Thevenins's and Norton's theorem problems as well as t circuit, bridged t circuit and lattice network problems.
IBM PC ☐ 16 KB req. ☐ Cost: $20

☐ **Wiremap**
Circuit and schematic analysis. Generates parts, wire and signal lists for production, debugging, troubleshooting and circuit documentation. Useful for prototyping, wire-map and point-to-point circuitry. Error checking and data editing included.
IBM PC ☐ 16 KB req. ☐ Cost: $40-$44

EESOF, INC.

☐ **MiCAD**
CAD for RF and microwave circuits. Processes and displays picture of user's circuit on graphics monitor. Supports Aristomat, HP 7585 Drafting Plotter and Wild Heerbrugg Coordinatograph. Data base of 350 individual layers.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $8,400

☐ **Microwave Spice**
Relates active device characteristics to process-related parameters. Performs time or frequency-domain analysis in nonlinear circuit design.
IBM PC, XT, AT ☐ 640 KB req. ☐ Introduced: 1986 ☐ Cost: $8,400

☐ **Touchstone**
Provides analysis, tuning, and optimization of RF and microwave circuits. Constructs circuits from 100-element catalog. Performs 200 measurements including noise figure, stability and source mapping circles and S-parameter measurements. Performs algebraic calculations. Handles up to 25 variables simultaneously.
IBM PC, XT, AT ☐ 640 KB req. ☐ Introduced: 1984 ☐ Cost: $8,400

ELECTROCON INTERNATIONAL, INC.

☐ **A/DFI (AutoCAD/DPAS File Interchange System)**
Symbol library and drawing interchange file translation system for use in electrical distribution system mapping and data base generation.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 4 since 1985

☐ **DPAS (Distribution Primary Analysis System)**
Analyzes load flows, losses, voltages and fault currents of radial, 3/V/single-phase primary distribution systems. Data base creation/maintenance capabilities. Interfaces with AutoCAD for mapping.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 22 since 1983

☐ **PC One-Line Diagram Program**
Handles construction, modification and display of one-line diagrams of power systems. User may lay out, inspect, and modify programs interactively, and obtain hard copies. Features zoom and pagination. Requires PC Power Flow to supply network topology and numeric results from solved case.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 19 since 1984 ☐ Cost: $3,750

☐ **PC Power Flow Program**
System planning and analysis. Handles 2,500 buses. Provides fast-decoupled and Newton solution algorithms. I/O in IEEE Common Format. Control features includes reactive power limits on generators, local or remote voltage control, control of real and reactive power flow.
IBM PC, AT, XT ☐ 192 KB req. ☐ Copies sold: 48 since 1983 ☐ Cost: $8,500

☐ **PC Short Circuit Program**
Solves arbitrary short circuits or faults of any complexity on power transmission networks. Handles 550 buses. Simultaneous impedance connections among conductors or ground. Handles phase shifts and mutual coupling in zero sequence. Includes macro facility. Monitors maximum and minimum current.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 37 since 1984 ☐ Cost: $8,500

ELITE SOFTWARE DEVELOPMENT, INC.

☐ **Electric Panel Design**
Calculates minimum sizes for circuit breakers, wiring and supply transformers in electrical distribution system. Prints schedules listing circuit names, circuit breaker sizes, balanced phase watts, total wattage and total amperage. Project data files can be used by Short Circuit and Voltage Drop programs.
IBM PC ☐ 56 KB req. ☐ Introduced: 1986 ☐ Cost: $295

☐ **Lighting Fixture Calculations Program**
Calculates requirements, prints schedule and provides energy economics report. Based on zonal cavity method in IES Lighting Handbook. Handles input for 500 rooms. Output includes number of fixtures required per room, total wattage required and customizable fixture schedule.
IBM PC ☐ 56 KB req. ☐ Copies sold: 750 since 1980 ☐ Cost: $495

☐ **Short Circuit Calculations Program**
Calculates symmetrical and asymmetrical fault currents. Data for copper and aluminum cables, bus ducts, circuit breakers, switches and current transformers stored on disk. Inputs and stores up to 600 buses and 25 motors. Motor contributions accounted for exactly.
IBM PC ☐ 56 KB req. ☐ Copies sold: 850 since 1980 ☐ Cost: $495

☐ **Voltage Drop Calculations**
Calculates voltage drops at every bus in electrical distribution network. Prints voltage losses on absolute and percent basis. Allows all types of electric components. User can specify KVA load with power factor at each bus. Short Circuit, Panel Sizing and AutoCAD compatible.
IBM PC ☐ 56 KB req. ☐ Copies sold: 475 since 1984 ☐ Cost: $295

EML RESEARCH, INC.

☐ **TRACE - Nicolet to IBM Transfer Program**
Reads traces from Nicolet 2090-3C oscilloscope via RS232. Adjusts to any configuration and outputs to ASCII data file. Program or front panel controlled trace selection. Provides data conversion and reduction.
IBM PC ☐ 64 KB req. ☐ Copies sold: 75 since 1983 ☐ Cost: $100

FAST FEEDBACK TECHNOLOGIES

☐ **Microtest Instrumentation Package**
Converts computer into measurement system capable of reading, analyzing, data logging voltage, current, resistance and temperature.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $495

FUTURENET CORP.

☐ **D-APPLICON**
Converts DASH Schematic Designer output into input format required by specific CAD system.
IBM PC, XT, AT

☐ **D-CADAM**
Converts DASH Schematic Designer output into input format required by specific CAD system.
IBM PC, XT, AT

☐ **D-CBDS**
Converts DASH Schematic Designer output into input format required by specific CAD system.
IBM PC, XT, AT

☐ D-CV
Converts DASH Schematic Designer output into input format required by specific CAD system.
IBM PC, XT, AT

☐ D-REDAC
Converts DASH Schematic Designer output into input format required by specific CAD system.
IBM PC, XT, AT

☐ D-SCICARDS
Converts DASH Schematic Designer output into input format required by specific CAD system.
IBM PC, XT, AT

☐ D-TEGAS
Converts DASH Schematic Designer output into input format required by specific CAD system.
IBM PC, XT, AT

☐ Dash-Abel
Links schematic capture with programmable logic design, extracting and translating data from DASH schematics into ABEL source file.
IBM PC, XT, AT

☐ Dash-Cadat
Verifies performance of complex logic designs of up to 10,000 gates, and up to 1,000,000 gate equivalents using behavioral modeling.
IBM XT, AT

☐ Dash-PCB
Routes boards through transfer of logic designs to physical layout.
IBM PC, XT, AT

☐ Dash-Test
Verifies VLSI chips and PCB designs in same system that was used for development, once implemented into hardware.
IBM PC, XT, AT

☐ DASH-2
CAE schematic capture system. Supports tag and drag, rubber banding, pin highlighting, three levels of zoom and four windows. Schematic editor program outputs pinlist and netlist. Performs design checking such as non-connected pins and input to output connections.
IBM PC ☐ Cost: $5,280-$6,280

GAS LIGHT SOFTWARE

☐ Z-EDIT
Edits Z transforms or digital filters. Allows editing of filter including coefficients, poles or zeros. 8087 support available for increased performance.
IBM PC ☐ 192 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $395

GATEWAY DESIGN AUTOMATION CORP.

☐ BitGrade
Provides fault grading for built-in self-test circuits. Generates diagnostic information.
IBM AT

☐ StatGrade
Statistical fault analysis system. Estimates overall fault coverage for digital logical circuits. Covers potential circuit faults including those that occur at input of circuit elements.
IBM AT

☐ TestGrade
Interactive logic and concurrent fault simulator. Combines gate and switch level simulations. Handles VLSI-complexity random sequential digital logic.
IBM AT

☐ TestGrade-A
Distributed processing version of TestGrade. Provides distributed concurrent fault simulation.
IBM AT

☐ TestScan
Generates test patterns for scan design circuits.
IBM AT

☐ Verilog
Mixed-mode, interactive logic simulator and hardware description language. User can combine high-level block descriptions with register transfer level, functional, gate and switch level circuit representations.
IBM AT

THE GREAT SOFTWESTERN CO., INC.

☐ Auto-Board II
Set of printed circuit design aids for schematic capture, component layout and auto-routing of printed circuit boards. Allows 1 mil resolution for free placement of parts and signal traces.
IBM PC

☐ Auto-Board System
Circuit element templates which aid in schematic design, layout and trace routing of double-sided PCBs. Output is definition of PCB including silk screen and drilling patterns. Allows graphic editing of routed PCB. Uses AutoCAD for all graphics interfaces.
IBM PC ☐ 512 KB req. ☐ Copies sold: 150 since 1985 ☐ Cost: $2,495

☐ Auto-Router SMD/Multi-layer
Auto-routes PCBs using surface-mounted technology and/or multi-layer boards. Advanced Routing Extensions 1 allows surface mounted technology routing. Advanced Routing Extension 2 allows routing on 1-16 layers in selectable routing pairs.
IBM PC ☐ 512 KB req. ☐ Introduced: 1986 ☐ Cost: $1,495-$2,495

HARRIS INFORMATION SERVICES
(division of Harris Publishing Co.)

☐ Selectory
Accesses 8,400 electronics industry manufacturing plants. Compiles specific or broad lists of target companies. Creates lists according to product, employment size and location criteria. Provides names/titles for 5 managers per firm. Generates mailing labels, continuous form cards and account profiles.
IBM PC

HEWLETT-PACKARD CO.

☐ Electronic Design System
Brings in netlist and part information and communicates engineering changes and back annotation for processing by HP Printed Circuit Design System.
IBM AT

HHB SYSTEMS

☐ Personal CADAT
Fault simulation, behavioral modeling, SSI/MSI model libraries, ASIC model libraries and CATS/Ethernet communications link. Suited to design of small PCBs and ASICs (Application Specific Integrated Circuits). Performs 21-state simulation. Min/max timing analysis.
IBM XT, AT ☐ 640 KB req.

HITACHI AMERICA, LTD.
Computer Sales & Service Division

☐ GM-PCB
Design for analog printed circuit boards.
IBM PC

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ CIEDS (Computer-Integrated Electrical Design Series)/ Design Capture
IBM no. 5668-878; 5669-191, 192. Features system monitor for access to all functions. Computer-aided schematics for entry/ edit of symbols and drawings. Netlist extraction from on-line schematics. Structured design language and standard symbol library. AT version requires DOS 3.1 or later.
IBM RT, AT ☐ Cost: $6,000-$8,000

☐ CIEDS/Engineering Access Routines
IBM no. 5713-ABF. Computer-Integrated Electrical Design Series. Accesses information within design capture data base. Translates data base logic descriptions into specific netlist formats for automated simulation or layout tools.
IBM RT ☐ Cost: $5,000

☐ CIEDS/Interface
IBM no. 5713-ABG. Computer-Integrated Electrical Design Series. Interface for translation of logic descriptions into sequential netlist in Structured Design Language or sequential output file formats for use by design automation tools.
IBM RT ☐ Cost: $2,000

INDUSTRIAL TECHNOLOGY GROUP

☐ Industrial Wiring Design
Calculates FLA and design amperes for given current, KVA or HP. Calculates conductor/conduit sizes, covering all common insulated conductors. Computes voltage drop in accordance with distance/type of conduit. Recalculates conductor size if voltage drop is larger than desired. Stores/tabulates calculation result.
IBM PC ☐ 64 KB req. ☐ Copies sold: 60 since 1983 ☐ Cost: $275

INFOLYTICA CORP.

☐ MagNet Release 3
CAD system for electromagnetic devices. Finite element method analysis of magnetic and electrical fields. Five principal processes and 3 file management programs keyed to single file structure. Postprocessor allows manipulation of solutions to calculate and display fields, torques, energy densities.
IBM PC ☐ 64 KB req. ☐ Copies sold: 40 since 1980 ☐ Cost: $8,950

INTEGRATED ENGINEERING SOFTWARE, INC.

☐ Electro
Integrated CAE field solver for design and analysis of electrical and electronic equipment. Utilizes boundary element method.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 5 since 1985 ☐ Cost: $20,000

IRIS SOFTWARE, INC.

☐ Iris-450
Schematic mapping. Supports digitizers.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $2,100

K. S. O.

☐ Logic Circuit Designer
Programs digital wave form, waving up to 16 outputs. Designs digital pulses from 250 nanoseconds to 4,096 minutes. Includes wave form compiler and analyzer, DOS or UNIX editor, EPROM program and back-up disk.
IBM PC ☐ 64 KB req. ☐ Copies sold: 150 since 1985 ☐ Cost: $499

MANAGEMENT SCIENCES, INC.

☐ PC-Availability
Tool for modeling system availability using Markov analysis. Models dependent failure rates and repair times. Based on matrix mathematics. Calculates system operation uptime/downtime, degraded time and reliability and maintainability measures. Compatible with MSI's PC-Bellcore or PC-Predictor.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1976 ☐ Cost: $3,000

☐ PC-Bellcore
Supports Bellcore Technical Advisory Publication, Reliability Prediction Procedure for Electronic Equipment (IP-10425). Accommodates component, unit and system burn-in and testing. Correction for infant mortality dependent upon effective burn-in test time due to temperature acceleration. Handles phrases. Accesses PC-Electronic Data Base.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $5,500

☐ PC-Electronic Data Base
Part information data base or library to calculate failure rate estimates. Covers resistors, ICs, capacitors, hybrid circuits, relays, semiconductors, printed wiring boards, inductors, switches, potentiometers and connectors.
IBM PC, XT, AT ☐ 256 KB req.

☐ **PC-FMEA/FMECA (Failure Mode Effects and Critical Analysis)**
Interactive tool for developing failure mode effects and criticality analysis per MIL-STD-1629A. Failure rate data thread from PC-Predictor. Calculates and displays failure probabilities from rates. System through component design.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $3,000

☐ **PC-Makedata**
Data creation system. Presents menu of data panels each corresponding to part or function described in line of Predictor data. Creates data files and catalogs. Compatible with PC-Panels for user-customized panels.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 98 since 1985

☐ **PC-Panels**
Designs data entry screens for PC-Makedata. Panel format capabilities. Reverse video, color, size and graphics options. Standard data checking routines.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 6 since 1985 ☐ Cost: $200

☐ **PC-Predictor**
Produces failure rate estimates based on part stress analysis per MIL-HDBK-217 reliability prediction requirements. Accesses PC-Electronic Data Base. User supplies component type, quantities, qualities and stresses. System through component level evaluation.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $5,500

MC2 ENGINEERING SOFTWARE

☐ **Electrical Engineering Group**
Includes Fault and Current Analysis, Fuse, Breaker and Wire Coordination, and Lighting Design programs. Printed inputs and outputs. Runs English or Metric units.
IBM PC ☐ 64 KB req. ☐ Copies sold: 250 since 1980 ☐ Cost: $1,385

☐ **E3M (Fault Current Analysis)**
Calculates 3-phase bolted and instantaneous peak currents and voltage drops including 700 faults/5,000 devices. Buss per unit method. Carries 30 device type files. Includes input screens, help messages and windows. Print pseudo schematic diagram.
IBM PC ☐ 64 KB req. ☐ Copies sold: 350 since 1980 ☐ Cost: $745

☐ **E4M (Fuse and Breaker Coordination)**
Coordinates electrical fuses and breakers to wire for proper operating sequence. Uses Buss up-over-and-down method. On-board data files. Printed inputs/outputs. Runs English or Metric. Retains job files on disk.
IBM PC ☐ 64 KB req. ☐ Copies sold: 240 since 1980 ☐ Cost: $295

☐ **E5M (Lighting Design)**
Calculates room cavity ratio, recommends number and location of fixtures according to IES maintained lighting level procedure, and prints diagram layout. Handles 400 fixtures in file storage. Handles 100 rooms in one run. Gives operating cost study description, maintenance factor and lighting curve data.
IBM PC ☐ 64 KB req. ☐ Copies sold: 300 since 1980 ☐ Cost: $495

META-SOFTWARE

☐ **Circuit PathFinder**
Circuit performance verification tool. Extracts design critical path. Performs conservative timing simulation while locating path elements.
IBM RT ☐ Copies sold: 10 since 1986 ☐ Cost: $10,000-$15,000

☐ **HSPICE**
Electronic circuit simulator. Alogorithms handle choice of matrix methods, timestep controls, transistor models and node initialization. Diagnostics pinpoint circuit problem areas and list problems nodes and elements. Includes hi-res interactive color graphics postprocessor, HSPLOT.
IBM PC, XT, AT, RT ☐ Copies sold: 150 ☐ Cost: $10,000-$15,000

☐ **RADSPICE**
Adds modeling of radiation effects to HSPICE capabilities. Functions include transient gamma radiation effects on P-N junctions, neutron degradation on bipolar junction transistors, radiation dose degradation on MOSFETs, ionizing photocurrents, ferrite nonlinear cores, magnetics and radiation voltage and current sources.
IBM PC, XT, AT, RT ☐ Cost: $15,000-$22,500

MICROSIM CORP.

☐ **PSpice**
Simulates circuits with up to 120 transistors. Analyzes user-created circuits and outputs to printer on another text file. Library of common discrete devices includes diodes, transistors and opamps. Interactive graphics post processor program, device equation and parts options are available.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $950

MONOLITHIC MEMORIES, INC.

☐ **PALASM- PAL Assembler**
Allows designers to write on silicon and implement logic functions from random gates to complex arithmetic. Defines, simulates, builds and tests PALS. Verifies logic design and generates fuse plot to program PALS. Requires RS-232C cable and PAL programmer.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 1,000 ☐ Cost: $200

MOSAID, INC.

☐ **MOSFIT**
Extracts MOS Transistor model parameters from test device measurements. Supports user-defined or standard SPICE MOS models. Provides instrument control, measurement, parameter optimization and plotting capabilities. Generates global parameter sets which are independent of bias conditions and device geometry.
IBM PC ☐ 512 KB req. ☐ Copies sold: 25 since 1983 ☐ Cost: $9,750

NEOTECH SYSTEMS

☐ **SC-SOL**
Three-phase short circuit solution up to 64 buses. All data entry is via built-in data base system, screen-mapped forms. Solves all short-circuit parameters for 3-phase power system. Prints formatted reports.
IBM XT, AT ☐ 256 KB req. ☐ Copies sold: 6 since 1981 ☐ Cost: $900

NORTHOUSE INDUSTRIES INTERNATIONAL

☐ **BODE**
Frequency analysis. Produces numerical tables and graphic plots (screen or printed) of typical frequency response curves. Linear transfer functions limited to maximum of 15th order.
IBM PC ☐ 64 KB req. ☐ Copies sold: 100 since 1970 ☐ Cost: $200

OMATION, INC.

☐ **Schema**
Generates and prints hi-res schematics, block diagrams, timing diagrams and flow charts. Extracts net lists, wire lists and BOMs from schematic drawings while verifying circuit integrity with routing, design rule check and usage reporting. Transports files to other CAE/CAD/PCB systems.
IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $495

ORCAD SYSTEMS CORP.

☐ **OrCAD/SDT**
Includes part libraries and utility programs for schematic output, BOM generation, net listing and design checking. Rubberbanding of wires and buses when moving objects. On-line part browsing. Auto panning of worksheet of screen boundary. String searching. Visible grids. Five zoom levels.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $495

PERSONAL CAD SYSTEMS, INC. (P-CAD)

☐ **Logs II**
Logic simulator. Provides interactive, mixed mode 12-state logic simulation for semicustom designs. Switch, gate and behavorial modeling. Semicustom simulation libraries.
IBM PC

☐ **PC-Caps**
PCB design, layout and logic simulation. Features hierarchical design, continuity checking and standard semicustom and PLD symbol libraries.
IBM PC

☐ **PC-Cards**
Interactive PCB layout editor. Data base utilizes netlist data from P-CAD's PC-Caps.
IBM PC

☐ **PC-CUPL**
Universal language for programmable logic design. Expresses design in logic equations, truth tables and state machine syntax. Offers logic minimization algorithms, Turbo-Morgan expansion and table-oriented simulation. Preprocessor provides string substitution, file inclusion and conditional compilation.
IBM PC ☐ Cost: $995

☐ **PC-DRC/NLC**
Performs design rule and netlist checking to detect physical design violations and verify electrical continuity.
IBM PC

☐ **PC-Place**
Places PCB parts. Provides utilities such as force vectors, histogram displays and rats nest lines to analyze and optimize placement.
IBM PC

☐ **PC-Route**
Runs in conjunction with P-CAD's PC-Place to interconnect design once placed. Provides status on line and ASCII report generation.
IBM PC

☐ **PDIF**
Acts as bidirectional interface translating schematic or PCB data into ASCII format for transfer to CAE/CAD/CAM systems, or to develop customized applications.
IBM PC

POWER TECHNOLOGIES, INC.

☐ **PSS/U (Power System Simulator for Utilization Level Circuits)**
Handles load flow, voltage drop, unbalanced fault, load balance, and circuit breaker duty calculations on distribution and industrial systems.
IBM PC ☐ 640 KB req. ☐ Copies sold: 12 since 1985

PROFESSIONAL NETWORK SERVICES CORP.

☐ **Electroword**
Electronics and computers spelling check dictionary. Correct spelling of 8,000 words. Compatible with SpellStar as supplemental dictionary.
IBM PC ☐ Copies sold: 10 since 1984 ☐ Cost: $75

PROMPT, THE SOFTWARE CO.

☐ **RAP217**
Predictions of components in accordance with MIL-HDBK-217. Obtains parameters for calculating failure rates. Displays, prints or saves results. Outputs part number, quantity, type, failure rate, stress level, base failure rate, quality and environmental factors. Adjustable temperature and/or environment.
IBM PC ☐ 256 KB req. ☐ Copies sold: 250 since 1982 ☐ Cost: $2,450 and up

RACAL-REDAC, INC.

☐ **REDLOG/REDBOARD**
PCB and scientific design drawing. Interactive facilities. Employed as standalone workstation or within multi-station distributed processing configuration when linked to Redac's DSM 6 Series Central Processor.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $6,000

SCIENTIFIC CALCULATIONS, INC.

☐ Scidesign

CAE for schematic and logic drawings. Includes schematic sheet editor, symbol library and graphical symbol editor. Generates schematic diagrams, performs design rule checks on circuit and generates net lists. Provides ASCII file of all data including graphics. Optional circuit simulation.

IBM PC, XT, AT ☐ 640 KB req. ☐ Introduced: 1985 ☐ Cost: $6,000

☐ Scism

Logic simulator. Integrates with Scientific Calculations' Scidesign for schematic capture.

IBM PC, XT, AT ☐ 640 KB req. ☐ Introduced: 1986 ☐ Cost: $3,000

☐ Scitherm

Heat transfer CAD system. Allows electronic equipment designers to analyze problems of space vs. heat buildup at every stage of design and production process.

IBM PC, XT, AT ☐ 320 KB req. ☐ Introduced: 1985 ☐ Cost: $10,000

SCOTT & SCOTT CONSULTANTS, INC.

☐ Engineering and Economic Evaluation

Handles demand and energy, power transformers, distribution transformers and regulators, construction expenditures, cost and losses and economics comparison. Models hourly demands and electrical and physical characteristics of transformers or regulators.

IBM PC ☐ Cost: $950

SIMUCAD

☐ SILOS

Logic mixed mode switch level simulator for electronic circuits. Logic and fault simulation and analysis. For system level, board level or MOS/IC designs. Specifies input to network as individual clocks or binary/hexadecimal tables.

IBM AT, XT ☐ Copies sold: 60

SPECTRUM SOFTWARE

☐ MICRO-CAP (Microcomputer Circuit-Analysis Program)

Reviewed Mar 1984 p. 88.

Circuit analysis and simulation. User sketches diagram on CRT screen. Netlist created from drawing. AC, DC or transient analysis on network. Handles non-linear networks of up to 60 nodes containing discrete components.

IBM PC ☐ 256 KB req. ☐ Copies sold: 5,000 since 1982 ☐ Cost: $475

☐ Micro-Cap II

Draws and analyzes circuits on screen. Handles resistors, capacitors and inductors through bipolar and MOS transistors. Macro models for opamps and transmission lines. AC, DC, Fourier and transient analysis of linear and non-linear circuits. Temperature and worst case analysis.

IBM PC ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $895

☐ Micrologic

Reviewed Mar 1985 p. 112.

Logic design and simulation. User sketches diagrams directly on screen. Netlist created from drawing. Timing/state simulation on network. Handles up to 2000 gates, user-defined in terms of gate name, delay and I/O clocks.

IBM PC ☐ 256 KB req. ☐ Copies sold: 5,000 since 1982 ☐ Cost: $450

TATUM LABS

☐ Electronic Circuit Analysis

Handles nonlinear transient, DC/AC analysis, worst case, Monte Carlo and frequency, time dependent parts. Includes built-in editor, macros and large circuits.

IBM PC ☐ 192 KB req. ☐ Cost: $450

TECHDATA

☐ Electrical Load Analysis

Computer-aided load list provides calculation of overall electric power requirements for industrial plants and buildings. Calculates loads at load centers providing KVAR, KVA and AMPS with optional default motor efficiencies and power factors.

IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $300

TERADYNE, INC.

☐ DataView

Integrates front-end design engineering applications, including schematic entry, documentation with mixed text and graphics, electronic mail, and LASAR simulation/waveform display. A consistent user interface, with pop-up menus, mouse, and multiple windows drives all functions.

IBM PC, AT ☐ 640 KB req. ☐ Cost: $4,500 and up

☐ LASAR

Circuit simulation for design verification and test generation for devices and printed circuit boards. Features model libraries of more than 4,000 devices, mixed-mode simulation, minimum/maximum timing analysis with one picosecond resolution, time-based concurrent fault simulation, and interfaces to ATE for test program generation.

☐ 4,000 KB req. ☐ Copies sold: 250 since 1983 ☐ Cost: $18,000 and up

TITANIA PUBLICATIONS

☐ Electronic Drawing

Prints electronic component or logic circuits. Provides 98 predrawn shapes including passive and active components and logic elements. Places, moves and rotates shapes on screen. Color codes wire runs. Labels plan horizontally or vertically with text including punctuation and Greek characters.

IBM PC ☐ 48 KB req. ☐ Introduced: 1983 ☐ Cost: $50

US WEST

Knowledge Engineering Division

☐ ICPNI (Integrated Circuit Part Number Index)

Indexing for locating data on ICs by base number or manufacturer's device number. Accesses data in Tech-Doc/Micro-Index, INACOM's components and materials source data base.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 500 since 1984

☐ Micro-Index

Accesses components in INACOM International's TECH-DOC files by product description, supplier or part number. Accesses product specifications, data sheets, applications material and supplier catalog data. Developed product/service index on hierarchical relationship using technical product descriptions and terminology.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $3,975

☐ Parametrix

Allows user to search for integrated circuit data by part number or by any combination of attributes.

IBM XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $4,000

VARIX CORP.

☐ GP1140

Programs and tests semiconductor devices such as PROMs, EPROMs, EEPROMs and programmable logic integrated circuits such as PALs and PLAs.

IBM PC ☐ Copies sold: 150 since 1983 ☐ Cost: $4,895

☐ SPO300

Programs and tests semiconductor devices such as PROMs, EPROMs, EEPROMs and programmable logic integrated circuits such as PALs and PLAs.

IBM PC ☐ 256 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $3,795

VECTORVISION

☐ PC10

CAD printed circuit board artwork design and documentation. Design rules can change during process to optimize component location and connection routing. Supports analog, stripline, ECL/TTL/MOS and RF circuit design. PC10 Con-Net auxiliary system available for net list entry and extraction.

IBM PC ☐ 256 KB req. ☐ Copies sold: 92 since 1984 ☐ Cost: $4,500

VECTRON GRAPHIC SYSTEMS, INC.

☐ CDS 2000

Computer-aided engineering system. Provides logic simulation and time verification.

IBM PC, XT, AT

☐ DNA2000 Electronic Design Automation

Supports electronic design processes. Includes schematic capture, interactive place and route, auto-routing, post-processing and NC drill and auto-insertion tapes.

IBM PC, XT, AT

VIDEO & COMPUTER SYSTEMS, INC.

☐ RAPS (Repair Analysis Program)

Enables user to analyze circuit board defects by levels of test stations, types of defects for improvements, types of components for failure rate reduction and board related problems. Adds, deletes and displays existing records.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 12 since 1984 ☐ Cost: $595

VIEWLOGIC SYSTEMS, INC.

☐ Workview 100 Series

Desktop CAE entry-level system. Features schematic entry, waveform processor, and symbol libraries for standard, semi-custom and analog parts. Includes document processing which merges text and color graphics, EDIF interface, and electronic mail and file transfer utilities.

IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $3,500-$5,500

☐ Workview 300 Series

Desktop CAE digital design system. Features schematic entry, waveform processor, and symbol libraries for standard and custom parts. Includes document processing which merges text and color graphics, EDIF interface, and electronic mail file transfer utilities.

IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $6,500-$8,500

☐ Workview 500 Series

Desktop CAE analog design system. Features schematic entry, waveform processor, document processing which merges text and color graphics, and EDIF interface. Includes circuit simulator, symbol library for analog parts, simulator library for discrete components, and electronic mail and file transfer utilities.

IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $5,500-$8,500

☐ Workview 700

Desktop CAE digital and analog design system. Schematic entry, waveform processor, document processing that merges text and color graphics, EDIF interface and communication facilities.

IBM PC ☐ 512 KB req. ☐ Cost: $6,500-$13,000

VISIONICS CORP.

☐ EE Designer

Schematic Capture, Circuit Simulation, PCB Layout, Artwork Generation and Libraries modules. Color graphics editor. TTL and CMOS compatible. Netlist extraction. Ratsnest connection. Simulates 12 signal states. Design rule check. Displayed timing waveforms. Spike analysis notation. What-if analysis. Rubberbanding.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $975

WINTEK CORP.

☐ HiWire

Schematic capture. Includes TTL, CMOS, microprocessor and discrete component libraries. Allows schematics on dot matrix printers/plotters. Supports hierachical design methods. Permits simultaneous display of schematic sessions. Includes netlist and BOM utilities.

IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $895

☐ smARTWORK

Reviewed May 1985 p. 113.

PCB artwork editor. Places and removes pads and traces with keyboard. Traces are vertical, horizontal or 45 degree diagonal, common device footprints obtained from library. Handles single- or double-sided PCB up to 10 by 16 inches.

IBM PC ☐ 320 KB req. ☐ Copies sold: 4,000 since 1984 ☐ Cost: $895

EQUIPMENT MAINTENANCE & FIELD SERVICE

ABC MANAGEMENT SYSTEMS, INC.

☐ Equipment Data and Repair History

Used in manufacturing, processing, utility and industrial plants, public works, schools, hospitals and service businesses.

IBM XT, AT ☐ 64 KB req. ☐ Copies sold: 60 since 1982

☐ Maintenance Management System

Maintenance management and accounting for industrial/manufacturing plants and institutions. Processes daily time cards. Reports job progress, time and cost for maintenance accounting. Provides payroll data. Includes work order backlog, planning, work order activity, monthly budget and preventive maintenance modules.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 30 since 1982

☐ Preventive Maintenance System

Preventive maintenance management for manufacturing, utility, industrial plants, oil and gas, public works, hospitals, schools service and repair shops.

IBM, XT, AT ☐ 64 KB req. ☐ Copies sold: 60 since 1982

ACME VISIBLE RECORDS

☐ Acme Visible Software Systems

Maintenance management recordkeeping for ongoing preventive maintenance. Data on equipment records, maintenance schedules, history of repairs, materials costs, work orders, inventory and management reports.

IBM PC, XT ☐ 192 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $3,995-$13,000

☐ Media-Flex Maintenance Management

AVR Maintenance Management Software. Preventive maintenance program and parts inventory. Provides master equipment, record, history of repairs, parts inventory, parts vendor information, outstanding work orders, past due report, maintenance scheduling and daily activity reports. Generates hard copies of work orders, requisitions and management reports.

IBM PC ☐ 256 KB req. ☐ Copies sold: 250 since 1984 ☐ Cost: $5,995-$16,000

ANAWAN COMPUTER SERVICES

☐ PM-STATUS II

Preventive maintenance status system. Identifies equipment overdue for scheduled maintenance. Displays or prints status records. Generates list of equipment groups, preventive maintenance categories and log sheet for shop use.

IBM PC, AT, XT ☐ 128 KB req. ☐ Copies sold: 150 since 1980 ☐ Cost: $395

ARTHUR ANDERSEN & CO.

Management Information Consulting Division

☐ Micro Maintenance Management (M3S)

Work Order Planning and Tracking. Stores/Materials Control and Equipment Monitoring.

IBM PC ☐ 384 KB req. ☐ Copies sold: 25 since 1984

APPLIED COMPUTER RESOURCES, INC.

☐ ISIS (In-Service Inspection Data System)

Automates data management and implements surveillance and component testing requirements. Addresses ASME and procedural requirements for mechanical components such as pumps, valves and piping supports. Data tracking, sampling, scheduling and provides status of current activities. Records performance and repair histories for trend analysis. Stand-alone or integrates with mainframe data bases.

IBM PC ☐ 384 KB req. ☐ Copies sold: 3 since 1985 ☐ Cost: $20,000

THE AUSTIN CO.

Management Consulting Division

☐ MCRS-1 (Maintenance Control and Reporting System)

Repair and preventive maintenance work order planning, tracking and reporting. Equipment history. Inventory. Timekeeping. Management reporting.

IBM XT, AT ☐ 256 KB req. ☐ Copies sold: 9 since 1985 ☐ Cost: $7,500

☐ PPM

Automatic predictive and preventive maintenance planning, scheduling and tracking. Compliance and performance reporting.

IBM XT, AT ☐ 256 KB req. ☐ Copies sold: 5 since 1985 ☐ Cost: $4,500

BENTLY NEVADA CORP.

☐ Machine Monitoring

Monitoring and diagnostics for rotating machinery for plant operators, maintenance engineers and machinery specialists. Trend, current values, bargraphs, train block diagrams, alarm indication, set-up list configuration, sequence of events log, comments, reports and graphic data listings.

IBM PC, XT

CENTAURUS SOFTWARE, INC.

☐ ARGUS

Reports analyze costs, supplies, work orders and equipment.

☐ 128 KB req. ☐ Copies sold: 5 since 1984 ☐ Cost: $4,500

COMPUTER ANALYSTS INTERNATIONAL, INC.

☐ Prefix Maintenance Management System

Preventive maintenance management. Automatic work order production by time interval or meter reading (Prefix) or special request (Repairs), equipment performance history, financial history analyses/summaries, cost projections, manpower/materials requirements. Spare parts inventory management (Stores); equipment master list (Equipment). User-specified reports.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 90 since 1984 ☐ Cost: $995-$5,995

COMSEN, INC.

☐ P.I.E.M.I.S

Parts, inventory, equipment and maintenance information. Information on repair, down time and cost of operation. Several breakdowns of operational costs.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 10 since 1983 ☐ Cost: $7,000

CONSTRUCTION SYSTEMS SOFTWARE, INC.

☐ Equipment

Maintenance, master file print, on-line inquiry, trial balance and detail ledger. Enters journal entries, hours and gallons. Reports equipment utilization.

IBM PC ☐ 96 KB req. ☐ Copies sold: 60 since 1978 ☐ Cost: $1,000

CORE SOFTWARE, INC.

☐ FasTrak Repair Tracking For Inventory

Works with FasTrak Service Management. Tracks parts removed for repair, belonging to user/customer, as to when and to whom they were shipped off, when they are expected, and when they were returned. Allows for swapping. Prepares shipping labels and paperwork.

☐ 256 KB req. ☐ Copies sold: 40 since 1986 ☐ Cost: $500

☐ FasTrak Service Department Management

Designed for firms which service equipment or property belonging to others. Schedules PMs. Prints service invoices and maintenance histories. Analyzes technician's time. MTTR. Adds dispatching and contract processing. Requires FasTrak GL and AR. Multi-user support on PC networks.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $1,950

☐ FasTrak Service Dispatching And Depot Tracking

Works with FasTrak service management, GL and AR, to provide tracking of service requests. Call handling designed for fast response. Analysis reports include problem by model, problem by technician, and response time. Contract processing. Multi-user support on PC networks.

IBM PC ☐ 256 KB req. ☐ Copies sold: 45 since 1986 ☐ Cost: $1,000

CORPORATE INFORMATION SYSTEMS, INC. (CIS)

☐ PREMISE (Preventive Maintenance Information System Executor)

Provides maintenance management information for plant equipment, electrical and mechanical machinery, facilities and fleet vehicles. Functions include equipment and maintenance procedures, scheduling, order control, work history data capture, user-specified reporting and shop work hours calendar.

IBM PC ☐ 512 KB req. ☐ Copies sold: 5 since 1983 ☐ Cost: $7,500

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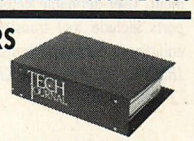
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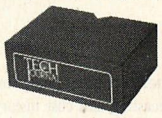
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CREATIVE MAINTENANCE SYSTEMS, INC.

☐ CAMS II - Maintenance Management Program

Manages equipment preventive maintenance and repair programs, facility work order control, spare parts inventory, and history and cost accounting. Schedules maintenance by calendar, run-time and/or mileage. Allows customized reports.

IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 24 since 1984 ☐ Cost: $5,900

THE DATA GROUP CORP.

(a NYNEX Co.)

☐ Fieldwatch

Includes Dispatch-Plus, Logistics-Plus, Billing-Plus, Remote-Plus, TAC-Plus, RCM-Plus and Forecasting-Plus. Controls service call tracking, field service inventory management, revenue tracking, remote diagnostics, billing and service profitability analysis. Forecasts yearly/monthly parts, manpower, equipment and warranty data. Preventive maintenance scheduling. Multiple search capability. Management reporting.

IBM PC ☐ Copies sold: 120 since 1983 ☐ Cost: $3,000

DATASOUTHERN, INC.

☐ Equipment Maintenance Scheduling-HE

Handles heavy equipment. Automatic scheduling by units. Maintenance history with costs, dates, and units. User-defined parameters for both units and hours. Optional spreadsheet and data base interface.

IBM PC ☐ 384 KB req. ☐ Copies sold: 4 since 1984 ☐ Cost: $995-$1,295

☐ Equipment Maintenance Scheduling-OR

Designed for over-the-road vehicles. Schedules preventive maintenance by miles or hours. Dates controlled reports. User overrides.

IBM PC ☐ 384 KB req. ☐ Copies sold: 3 since 1984 ☐ Cost: $995-1,295

DECISION DYNAMICS, INC.

☐ DynaStar II

Provides management tools for recording, scheduling, tracking and reporting of both preventive and corrective maintenance, parts inventory and detailed cost and time analysis for both types of activities. Provides facilities for tracking, analyzing and reporting machine history information.

IBM XT, AT ☐ 512 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $8,750

DEVCOR, INC.

☐ TEAM (Tool & Equipment Accounting Management)

Tracks status, location and transfers of 16,000 tools and equipment. User-definable categories. Maintenance notebook. Reports include tool transfer slips, project review summaries, equipment cards and transaction histories.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 33 since 1985 ☐ Cost: $695

DIAGONAL DATA CORP.

☐ Micro Maint

Plant maintenance system. Provides work order processing, PM scheduling, parts inventory, forecasting and cost history, machine case history and maintenance management reporting. Optional Maintlog interface permits CAMM-collected data to trigger maintenance procedures and work orders.

IBM PC, XT, AT ☐ Cost: $4,950-$9,950

DP SYSTEMS & SERVICES, INC. (DPSS)

☐ MMS (Maintenance Management System)

Prevents breakdowns and tracks machine failure rates. Forecasting method determines labor and spare parts requirements. Maintenance history reports by department or defined equipment group. Prepares project work orders including required parts/tools.

IBM XT, AT ☐ 256 KB req. ☐ Copies sold: 3 since 1984 ☐ Cost: $4,500

ELKE CORP.

☐ Main/Tracker (Elke Maintenance Management System)

Assists in planning, scheduling and controlling work orders, monitoring preventive/corrective maintenance and controlling spare parts inventories. Features emergency work control, work order inquiry/reporting, repair/component history, working BOM, issues/returns, pick lists and parts catalogs.

IBM PC, XT, AT ☐ Copies sold: 540 since 1979 ☐ Cost: $4,000

ENERGY, INC.

☐ MICRO-SIMS

Work order, equipment control and tracking. Work request/trouble report processing, work orders printed for issue, work order tracking, equipment history generation, periodic maintenance forecasting and CM and PM trial schedule evaluation.

IBM PC ☐ 256 KB req. ☐ Copies sold: 1 since 1984 ☐ Cost: $4,995

ENTEK SCIENTIFIC CORP.

☐ EXAMINE

Locates potentially defective parts so they can be replaced before failure occurs.

IBM PC, XT, AT ☐ 640 KB req. ☐ Cost: $5,000

GLOBAL SOFTWARE CONSULTANTS, INC.

☐ Taskmanager II

Maintenance management of equipment. Work orders and reports showing maintenance time, status, costs, standard life expectancy and scheduled and unscheduled maintenance histories. ISAM file structure. Accesses other files without exiting current file.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $5,995

HARRIS TECHNICAL SYSTEMS

☐ Machinery Record Keeping

Tracks machinery inventory, cost history, repair cost, fuel and use, labor costs and repair frequency. Maintenance schedules. Graphs cost history, repair frequency by machine and repair frequency by year.

IBM PC ☐ 64 KB req. ☐ Cost: $595

HRL ASSOCIATES, INC.

☐ TMS (Total Maintenance System)

Facilities maintenance and inventory management. Generates preventive maintenance, corrective/repair maintenance and project-related work orders, and maintenance management and inventory system management reports. Distribution, return, receipt and adjustments to maintenance inventory accounting. Multi-user capabilities.

IBM PC ☐ 128 KB req. ☐ Copies sold: 102 since 1984 ☐ Cost: $6,295-$9,954

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Hardware Maintenance and Service

IBM no. 6025-072.

IBM PC ☐ Cost: $155

J B SYSTEMS, INC.

☐ MAINSAVER

Management information system. Manpower, materials and equipment histories with financial controls. Schedules preventive maintenance and provides histories of plant and equipment. Tracks work orders, spare parts inventory and POs.

IBM PC ☐ 256 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $5,000-$27,000

☐ Micro Maintenance

Preventive maintenance scheduling and corrective maintenance tracking using management information system approach. Includes plant and equipment maintenance histories.

IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1983 ☐ Cost: $3,000

JONAS & ERICKSON SOFTWARE TECHNOLOGY, INC.

☐ Maintenance Service Contractors System

Designed to handle information requirements of small or large, simple or complex service environments. User-definable processing structures including multiple contracts, definition of charge types and code, and AR integration.

IBM PC, XT, AT ☐ Copies sold: 5

JOSALLI, INC.

☐ PMS (Preventive Maintenance System)

Sets up equipment inventory with descriptive and accounting information. Establishes preventive maintenance tasks and schedules for equipment. Prints weekly job schedules, inventory lists, task lists and future work schedules. Retains, extracts and reports historical information on maintenance jobs.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 600 since 1983 ☐ Cost: $495

☐ WOT (Work Order Tracking)

Plans, schedules and tracks maintenance activities. Prepares job work orders with appropriate accounting and job costing information. Extracts and reports from history file.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $495

MAINTENANCE AUTOMATION CORP.

☐ Chief Software

Work order processing, scheduled preventive maintenance, grid locations, blueprint and document files, site and electromechanical facts and management reports. Spare parts and supplies inventory.

IBM PC ☐ 256 KB req. ☐ Copies sold: 300 since 1982 ☐ Cost: $2,000-$20,000

MIS/R SYSTEMS CO., INC.

(division of Fleetridge, Inc.)

☐ MIS/R (Maintenance Information System & Record)

Provides structured maintenance planning, scheduling and recordkeeping. Generates and controls work orders. Maintains equipment history. Provides maintenance cost reports. Reviews and adjusts manpower and maintenance organization work loads. Analyzes energy and utility cost and consumption.

IBM XT, AT ☐ Cost: $6,900

MODERN MANAGEMENT, INC.

☐ CMTS

Maintenance time standards management and data base. Allows determination of standard time for maintenance job prior to job start. Measures productivity levels. Calculates staffing requirements.

IBM PC, XT, AT ☐ 256 KB req.

☐ MODCAM

Maintenance management. Work Order Tracking, IC, Nameplate Tracking, Preventive Maintenance Tracking, Equipment History and PO Tracking. Status and work schedules. Current balance, location and YTD issues.

IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 125 since 1982 ☐ Cost: $20,000

NORSE SYSTEMS, INC.

☐ CEMP1 (Capital Equipment Maintenance Program)

Maintenance management system for fleet vehicles. Includes Fuel/Energy Control, Unit/Equipment Cost Reporting, Maintenance Reporting Sub-system, Inventory/Purchasing Control, AP, GL and Payroll modules. Provides DBMS access to all applications.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $15,500

NORTHOUSE INDUSTRIES INTERNATIONAL

☐ MachineStar

Machine maintenance program for stationery stock. Schedules regular maintenance and overhauls. Calculates work/costs for each piece of equipment. Keeps stock inventory of parts used in repairs, maintenance and overhauls.

IBM PC ☐ 192 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $495-$695

O'BRIEN & GERE ENGINEERS, INC.

☐ **Inventory Control System**
Indexes parts description and one or more parts numbers providing cross referencing to several number systems. Lists alternate parts. Retrieves part by referencing equipment which uses part. Imports equipment inventory information from Maintenance Management System.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 1 since 1985 ☐ Cost: $3,000

☐ **Maintenance Management System**
Maintains equipment inventory by unit and component. Defines component by manufacturer and model number. Assigns maintenance tasks on component basis. Produces preventive and corrective work orders, and current and historical management reports.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 8 since 1985 ☐ Cost: $3,000

OLIVER MARKETING, INC.

Specialized Software Division

☐ **PERDEC**
Decision-support to determine optimal replacement time to replace plant machinery and equipment. Input requirements include a history of operating and maintenance costs, acquisition cost, and estimated resale values.
IBM PC ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $1,495

☐ **RELCODE**
Uses data related to the history of component failures to determine the best replacement policy, whether to replace when a component actually fails, or to replace on a preventive maintenance basis.
IBM PC ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $1,495

OMNI COMPUTER SYSTEMS, INC.

☐ **Centaur**
Determines the cost of operations, identifies problem vehicles, most common repair problems and assists in management of routine activities. Accommodates preventive maintenances, warranty performance evaluation, spares and manpower requirements.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1 since 1983 ☐ Cost: $1,500

OMNICOMP, INC.

☐ **SERVICE CALL**
Integrated corrective and preventive work order tracking, analysis and reporting for facilities and equipment maintenance.
IBM PC, XT ☐ 384 KB req. ☐ Copies sold: 65 since 1983 ☐ Cost: $795

PENGUIN COMPUTER CONSULTANTS

☐ **Maintenance and Inspection**
Maintenance management system including parts inventory. Flexible coding structures and scheduling options. Prepares working, planning and analysis reports.
IBM PC ☐ 256 KB req. ☐ Copies sold: 60 since 1984 ☐ Cost: $2,500

PENTON SOFTWARE, INC.

☐ **MaintenancePro**
Preventive Maintenance, Planning, Scheduling and Control, and IC modules. Monitors maintenance efforts, coordinates equipment replacement, tracks labor and material cost.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $995

☐ **MaintenancePro Plus**
Preventive maintenance, planning, scheduling, work orders and IC. Inputs facilities data, monitors maintenance efforts, coordinates equipment replacement, and tracks labor, material, and miscellaneous cost. Generates reports.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $1,595

☐ **Penton/Maintenance I**
Preventive Maintenance, Inventory, Work Order, Bar (Gantt) Chart Scheduling and Systems Management modules.
IBM XT ☐ 256 KB req. ☐ Copies sold: 30 since 1985 ☐ Cost: $2,995

☐ **Penton/Maintenance II**
Preventive Maintenance, Inventory, Work Order, Bar (Gantt) Chart Scheduling, Systems Management, Equipment History, PO Tracking and Spare Parts Lists Modules.
IBM XT ☐ 256 KB req. ☐ Copies sold: 30 since 1985 ☐ Cost: $4,995

☐ **Penton/Maintenance III**
Preventive Maintenance, Inventory, Work Order, Scheduling, Systems Management, Equipment History, PO Tracking, Spare Parts, Fixed Assets, Warranty and Forms Design Modules.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $6,995

☐ **Penton/Maintenance IV**
Preventive Maintenance, IC, Work Orders, Scheduling, Systems Management, Equipment History, PO Tracking, Spare Parts, Fixed Assets, Warranty and Forms Design modules. Networking capability, equipment data, tool box and personnel management.
IBM PC, AT ☐ 512 KB req. ☐ Copies sold: 5 since 1985 ☐ Cost: $9,495

PINETREE COMPUTER SYSTEMS, INC.

☐ **Dispatch Express Field Service Management System**
Uses portable hand-held terminal to dispatch and call from field. Tracks equipment in field. Maintains records of repair time and expenses. Locates personnel. Handles accounting functions and contract administration. Modules include Dispatch/Close, IC, Contract Administration, Billing, AR, GL and AP.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $9,995; $3,995 per module

☐ **Field Service DATA Management System**
Field personnel daily report on product, repair, expenses, parts usage and customer data. Retrieves data by customer name, service performed, time consumed, manufacturers product, parts used and/or service cost.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $1,000

PLANTEC CORP.

(subsidiary of Reynolds, Smith and Hills Architects-Engineers-Planners, Inc.)

☐ **PFM (Plant and Facilities Management)**
Work order/fixed asset management system for power plants, utilities, schools, manufacturers and process plants. Supports regular/preventive work orders. Provides materials management with purchasing/issues/returns. Maintains work order/component history and replacement costs. Provides actual vs. budget cost information.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 15 since 1983 ☐ Cost: $5,000

PMS (PLANNED MAINTENANCE SYSTEMS)

☐ **EMS 201 (Equipment Maintenance System)**
Preventive/corrective maintenance work orders. Reports include inventory, deferred maintenance, backlog, repair price as percent of purchase price, down time, employee performance report, maintenance history and failure analysis. Includes space utilization data base and management information system.
IBM PC ☐ 512 KB req. ☐ Copies sold: 180 since 1981 ☐ Cost: $5,000-$20,000

☐ **FMS Facility Management System**
Building, grounds, equipment and related structures. Work project, equipment and materials management; time accounting, budget/accounting and on-line report generation.
IBM PC ☐ 512 KB req. ☐ Copies sold: 180 since 1981 ☐ Cost: $10,000-$150,000

☐ **Prime B&A (Budget and Accounting)**
Tracks budget, authorization, commitments and expenditures against budget accounts. Accepts transactions from PMS Time Accounting System and TAS modules.
IBM PC ☐ 512 KB req. ☐ Copies sold: 8 since 1984 ☐ Cost: $3,000-$20,000

☐ **Prime INV (Material/Parts Inventory Management)**
Includes purchase/requisitions, reserves parts/materials, handles automatic reorder. Rates vendor performance. Accommodates multiple activities. Batch or lot control.
IBM PC ☐ 512 KB req. ☐ Copies sold: 11 since 1983 ☐ Cost: $5,000-$10,000

☐ **Prime PMS (Project Management System)**
Tracks multi-level project development. Creates work orders, manpower estimates and BOM. Reports tasks, dependencies and schedule impacts. Integrates with PMS Equipment Maintenance, Buildings and Grounds Maintenance, IC, Budget and Accounting and Time Accounting modules.
IBM PC ☐ 512 KB req. ☐ Copies sold: 10 since 1985 ☐ Cost: $3,500-$30,000

☐ **Prime TAS (Time Accounting System)**
Records employee labor from time cards. Interfaces to PMS' EMS, WMS, PMS and Budget & Accounting and includes employee data file, labor transaction file, and codes lookup tables. Provides reports of employee charges and performance.
IBM PC ☐ 512 KB req. ☐ Copies sold: 18 since 1984 ☐ Cost: $3,000-$7,500

☐ **SWORD (Swift On-Line Report Developer)**
Report formatting, record selection, record sorting, data field calculations, subtotaling and totaling. Included with Prime-Work Order System.
IBM PC ☐ 512 KB req. ☐ Copies sold: 180 since 1984 ☐ Cost: $3,500-$10,000

☐ **WMS 201 (Work Management System)**
Issues work orders for corrective/preventive maintenance on buildings/grounds. Space utilization data base and management information system. Maintenance history/cost tracking. Interfaces with PMS' Equipment Management, Time Management, Project Management, Budget and Accounting and Inventory Management systems.
IBM PC ☐ 512 KB req. ☐ Copies sold: 180 since 1983 ☐ Cost: $3,500-$30,000

PROJECT SOFTWARE & DEVELOPMENT, INC. (PSDI)

☐ **Maximo Maintenance System**
Work order tracking, IC, preventive maintenance management and equipment histories tracking. Produces predesigned or user-formatted reports. Handles information with relational DBMS. Includes mouse.
IBM PC, XT, AT ☐ 640 KB req. ☐ Cost: $17,900

REMASCO, INC.

☐ **Plant Maintenance PM and Work Order Control System**
PM Scheduling by week, work order scheduling by tradesman. Prints work order assignments by each tradesman in priority order. Spare parts inventory and costing of labor and materials. Includes management, accounting and tradesmen performance reports.
IBM XT, AT ☐ 128 KB req. ☐ Copies sold: 1 since 1983 ☐ Cost: $10,000-$15,000

SCOTT & SCOTT CONSULTANTS, INC.

☐ **CTCS (Computerized Trouble Call System)**
Maintains required data by Distribution Primary Analysis, Transformer Load Management and Customer Inquiry. Processes all calls via interactive terminals. Determines probable devices out-of-service. Summarizes outage cases.
IBM AT ☐ Cost: $27,500

THE STANWICK CORP.
Operations and Maintenance Engineering Division

☐ Maintenance Management System
Planned Maintenance, Corrective Maintenance, Repair Planning and Spare Parts IC modules. Printed reports and work orders. Labor and material costs, repair status, machine history and parts inventory.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 5 since 1983 ☐ Cost: $2,500 and up

SYSTEMS ASSOCIATES, INC. (OH)
☐ Preventive Maintenance System
Informs user of rooms and pieces of equipment to be maintained on periodic basis. Performs up to 20 specific tasks. Generates work orders at correct intervals. Defines 100 pieces of equipment in each category.
IBM XT, AT ☐ 512 KB req. ☐ Copies sold: 4 since 1984 ☐ Cost: $2,500

☐ Work Order System
Assigns and monitors progress of various work projects. Prints, records and sorts work orders and tickets.
IBM XT, AT ☐ 512 KB req. ☐ Copies sold: 7 since 1984 ☐ Cost: $2,500

TMM SYSTEMS
(division of Weiss Associates, Inc.)

☐ TMM-Total Maintenance Management Control System
Maintenance IC, Corrective Work Order and Preventive Maintenance and Equipment History modules. Spare parts inventory. Data base of open and closed work orders. Daily scheduling and weekly planning. Computes labor and material costs.
IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1979 ☐ Cost: $9,500

TOMARK-CYBER ASSOCIATES, INC.
☐ Equipment Maintenance
Maintains equipment inventory. Allows customized preventive maintenance. Creates maintenance and repair work orders. Tracks gas inventory, repair costs and warranties.
IBM PC, XT, AT ☐ 12 KB req. ☐ Copies sold: 6 since 1980 ☐ Cost: $3,000

UNIK ASSOCIATES
☐ CMMS (Computer-Aided Maintenance Management System)
Integrated equipment history, preventive maintenance, work order system, spare parts IC and craft definition modules. Report categories include equipment, preventive maintenance, work order and IC. Preventive maintenance scheduling by run time or calendar date.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $5,500

☐ MMS (Maintenance Management System)
Equipment history, preventive maintenance, work order control and spare parts IC. Communicates with several existing building monitoring systems.
IBM PC ☐ 512 KB req. ☐ Copies sold: 75 since 1983 ☐ Cost: $5,995

☐ MMS II (Advanced Maintenance Management System)
Preventive maintenance, equipment data and history, repair history, work order system and IC. Computes each craft's productivity based on estimated and actual hours. Gives option to update inventory upon completion of a work order. Password system.
IBM PC, XT, AT ☐ Cost: $5,995

UNIVERSAL DATA RESEARCH, INC.
☐ Maintenance System
Equipment maintenance scheduling. Records scheduling, equipment descriptions and detailed maintenance routines. Interfaces with UDRI DBMS.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1980 ☐ Cost: $695-$1,195

EXPERT SYSTEMS

ARITY CORP.
☐ Expert Systems Development
Constructs expert systems and knowledge intensive programs. Provides 2 ways of representing knowledge and taxonomy of frames and rule-based system. Handles optimized backward chaining and bi-directional interfacing. Requires Arity/Prolog Compiler or Interpreter.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $295

ARTELLIGENCE, INC.
☐ Prodigy
Artificial intelligence.
IBM PC ☐ Cost: $450

ARTIFICIAL INTELLIGENCE RESEARCH GROUP
☐ ELIZA
Non-directive psychotherapist who analyzes each statement as it is typed and then responds with a comment or question. Conversation is saved in a buffer which can be stored on disk. Implementation of the mainframe version of MIT's ELiza.
IBM PC ☐ 48 KB req. ☐ Copies sold: 9,000 since 1981 ☐ Cost: $45

CALIFORNIA INTELLIGENCE
☐ XSYS
Suited for structured classification or catalog selection applications depending on a variety of input criteria. Facilities include knowledge attributes, variables and operators in if-then parts of any rule, handling of uncertainty and negation, and concatenation of hierarchically related knowledge bases.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 34 since 1983 ☐ Cost: $995

CHALCEDONY SOFTWARE
☐ Prolog V
Reviewed Jan 1986 p. 145.
Artificial intelligence language. Features Clocksin and Mellish-Standard Edinburgh Syntax, interactive debugging, 70 predefined predicates and integer arithmetic.
IBM PC ☐ Cost: $70

☐ Prolog V Plus
Artificial intelligence language. Clocksin and Mellish-Standard Edinburgh Syntax, interactive debugging, over 100 predefined predicates, floating point arithmetic, coresident program editor, calls to coresident programs and text and graphic screen manipulation.
IBM PC ☐ Cost: $100

☐ Prolog/i
Artificial intelligence language. Features over 100 predefines and operators, subroutine function library, and built-in, integrated editor. Supports double-precision floating point arithmetic and Clocksin and Mellish-Standard Edinburgh Syntax.
IBM PC ☐ 256 KB req. ☐ Cost: $70

COMPUTER * THOUGHT CORP.
☐ OPS5+
Expert system development and debugging tool.
IBM PC ☐ Cost: $1,850

CYBERENGINEERING CORP.
☐ CyberOracle - Forecasting of Time Series via Artificial Intelligence
Uses pattern cataloging to develop interrelationships. Combines interrelationships with logic decision tables to produce forecasts.
IBM PC

☐ CyberTools Artificial Intelligence Library
Collection of programs for AI and expert system builders. Includes a version of LISP written in Pascal, XLISP with C source code and supporting utilities.
IBM PC

DIALOG SYSTEMS, INC.
☐ LESP (Logistics Expert Systems Programs)
Develops applications for materials, production and distribution problems. Includes interactive knowledge base debugging, question generation, explanation of responses and factors to consider uncertainty.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 1 since 1985 ☐ Cost: $5,000-$25,000

DYNACOMP, INC.
☐ Eliza II
Artificial intelligence system.
IBM PC ☐ 48 KB req. ☐ Cost: $20

DYNAMIC MASTER SYSTEMS, INC.
☐ TOPSI
Artificial intelligence language system. Performs data driven symbolic processing using user-supplied rules. Permits multiple compound logical arithmetic conditions resulting in different actions. Rule base and data base saved separately.
IBM PC ☐ 65 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $75-$195

EXPERT SYSTEMS INTERNATIONAL
☐ ESP Advisor
Expert system consultation shell. Constructs knowledge bases of up to 3,000 rules and offers advantages for developers of knowledge-based software applications.
IBM PC, XT, AT ☐ 384 KB req. ☐ Introduced: 1984 ☐ Cost: $895

☐ PROLOG-1
Reviewed Jan 1986 p. 145.
Prolog interpreter based on standard Edinburgh syntax. Features floating-point arithmetic, debugging tools including break, backtrace, trace and spy predicates, interprocess communication and C, Pascal and Ada interfaces.
IBM PC, XT, AT ☐ Introduced: 1981 ☐ Cost: $95

☐ PROLOG-2
Prolog interpreter/compiler based on full Edinburgh syntax with built-in predicates for controlling windows. Includes full screen program editor, generalized tokenizer for free format input, full screen graphics, tail recursion, optimization, real arithmetic to IEEE long real format and precision and optional 8087 support.
IBM PC, XT, AT ☐ 384 KB req. ☐ Introduced: 1985 ☐ Cost: $1,895

EXPERT SYSTEMS, INC.
☐ Expert-Ease
Discovers rules from examples. Spreadsheet format for knowledge acquisition and maintenance. Builds pratical expert systems. Makes intuitive decision processes explicit.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 1,500 since 1983 ☐ Cost: $595

EXSYS, INC. (NM)
☐ EXSYS (Expert System Development Package)
Expert system development environment. Utilizes if/then/else production rules with probability. Features why, how, notes, reference, blackboarding, report generator, backward/forward chaining and math including trig. and log. Supports color. Interfaces to any .EXE file.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,300 since 1984 ☐ Cost: $395

GENERAL RESEARCH CORP.
☐ TIMM (The Intelligent Machine Model)
Primary functions are build, train, and exercise. Using the build function, user defines the choices that the system will make and the factors that influence that choice. After defining the values associated with each factor, system is trained using rules generated by both the user and the system.
IBM PC, XT, AT ☐ Cost: $9,500

HEURISTICS, INC.

☐ **Onspec Superintendent**
Performs knowledge-based process control in English.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $1,985

HUMAN EDGE SOFTWARE CO.

☐ **Communication Edge**
Assesses user's communication style relative to approach likely to be taken by counterpart. Generates strategy with ideas geared toward effective communication between parties.
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☐ **Expert Edge**
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IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $795

☐ **Management Edge**
Offers strategies in solving situations including raising productivity, increasing performance, improving communications, effective disciplining, firing and policing subordinates. Bases strategies on information supplied about managers, organization and subordinates.
IBM PC, PCjr ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $100

☐ **Mind Over Minors**
Manages and motivates young people ages 5-18 by providing a strategy report based on personality of teacher or parent and the child. Generates report by responding to a series of questions.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $30-$50

☐ **Negotiation Edge**
Aids in developing strategies for conducting negotiations or bargaining. User completes assessment on self, counterpart and circumstances of negotiation. Negotiation plan generated based on assessments.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $100

☐ **Sales Edge**
Provides individually-tailored strategy for dealing with specific customers. User completes assessments on himself and customer. Generated report contains sales strategy tailored to salesman's and customer's personality.
IBM PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $100

INTELLICORP

☐ **KEE System**
Builds knowledge based systems, from prototype through finished product, to deliver to end users. Provides supportive environment that helps user understand how system uses its knowledge to solve problems and make decisions. Application knowledge base can be extended.
IBM RT PC

KDS CORP.

☐ **Knowledge Delivery System**
Expert system shell and run-time system. Produces up to 16,000 rules from up to 4,096 case histories per module. Uses 512 conditions in any combination to distinguish one case history from another. Interfaces with other systems at front and back end.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 250 since 1985 ☐ Cost: $945

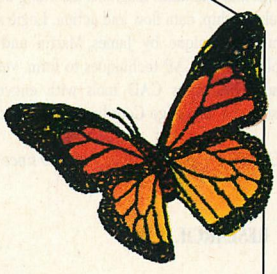
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☐ **Trouble Shooter**
Finds the causes of problems, such as equipment malfunction, low sales and productivity. Works by organizing the facts surrounding the problem and allowing the user to test the possible causes against the facts.
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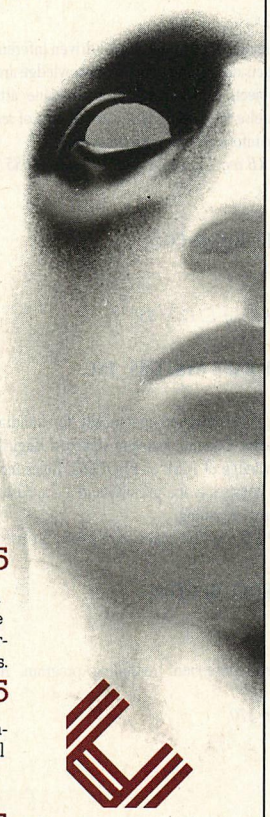
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IBM PC, AT ☐ 2,000 KB req. ☐ Copies sold: 400 since 1985 ☐ Cost: $7,500

LEVEL FIVE RESEARCH, INC.

☐ Insight 1
Provides a backwards chaining or goal-driven inference control structure. Supports if-then-else rule. Allows a confidence factor for each rule. Each fact is obtained within a confidence factor. Provides a report of current path of reasoning and explanatory information on a question or topic.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2,500 since 1984 ☐ Cost: $95

☐ INSIGHT 2+
Backwards and forwards chaining or goal-driven inference control structure. Facts describing domain of knowledge are represented using objects with single- or multi-value attributes. Supports if-then-else rules. Reports on current path of reasoning and explanatory information on question/topic.
IBM PC ☐ 480 KB req. ☐ Copies sold: 700 since 1985 ☐ Cost: $985

MCGRAW-HILL BOOK CO.

☐ MicroExpert
Expert system.
IBM PC ☐ 64 KB req. ☐ Cost: $50

MICRO DATA BASE SYSTEMS, INC.

☐ Guru
Artificial intelligence designed specifically for building business expert systems. Communicates in standard English. Does not require knowledge of LISP or PROLOG. Rules include if-then statements consisting of a premise and a conclusion. Uses backward/forward reasoning.
IBM PC ☐ 640 KB req. ☐ Copies sold: 1985 ☐ Cost: $2,995

MILLER MICROCOMPUTER SERVICES

☐ Expert 2
Knowledge-based consequent reasoning program. Requires MMS-Forth.
IBM PC ☐ Cost: $70

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☐ Optisolve
Handles a single equation in one unknown, a system of simultaneous equations in several variables, and maximization or minimization of a function with constraints.
IBM PC ☐ Cost: $195

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☐ Ex-Tran 7
Expert system development tool. Establishes hierarchical dependency between rules. Generates Fortran 77 code. Links external Fortran subroutines with the expert system to capture data.
IBM XT, AT ☐ Copies sold: 100 ☐ Cost: $3,500

☐ Expert-Ease
Expert system development tool. Checks for conflicts or clashes as examples are fed into knowledge base. Indicates areas with incomplete information. Allows independent construction and testing of knowledge system sub-components.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $695

☐ Exsys
Expert system development tool. Provides rule editor and mathematical functions. Supports certainty factors, with multiple modes of calculating probabilities available. Performs what-if sensitivity analysis by changing one or more answers to questions. Includes runtime version. Works with ram disk programs.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $395-$600

☐ Insight
Expert system develpment tool. Enters knowledge in Production Rule Language. Uses if-then rules and goal outlining to define knowledge. Features forward and backward chaining mechanisms for its reasoning processes. Inference program reasons from uncertain information.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,500 ☐ Cost: $95

PORTABLE SOFTWARE, INC.

☐ Xi
Expert systems shell designed for advisory and knowledge communications.
IBM PC ☐ 384 KB req. ☐ Cost: $795

PRODUCTION SYSTEMS TECHNOLOGIES

☐ OPS83
Rule-based, expert systems programming language. Interfaces programs to existing programs written in other languages.
IBM PC ☐ Cost: $1,950

PROGRAMMING LOGIC SYSTEMS, INC.

☐ APES (Augmented PROLOG for Expert Systems)
Expert system shell. Constructs logic based expert systems. Queries user for information which is not in data base. Decides when to ask questions. Provides explanations of its reasoning. Includes meta queries, automatic menu generation, validity constraints, and natural language syntax. Requires micro-PROLOG.
IBM PC ☐ Introduced: 1984 ☐ Cost: $99-$395

PROGRAMS IN MOTION, INC.

☐ 1st-Class
Expert system development program. Builds diagnostic systems with visual aid or prompting, and/or with hardware data sensing/control. Ranks diagnostic tests. Controls external processes/equipment. Exchanges information with data bases. Global variables, report generator, trace facility, explanation facilities and expanded rule capacity.
IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $495

RADIAN CORP.

☐ RuleMaster
Includes RuleMaker subsystem and Radial interpreted language. Induces rules from example. Expresses and executes rules. Interfaces external programs including graphics libraries and data bases. Generates expert systems in C code.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $995-$17,500

THE SAVVY CORP.

☐ PC Language/Database Manager/Retriever
Artificial intelligence data base, programming language and natural query language.
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SOFTSYNC, INC.

☐ SuperExpert
Expert system development program. Induces rules from examples already held in data bases and spreadsheets. Includes natural language inquiry system. Allows up to 1,000 examples for each problem/subproblem and 50 logical/integer attributes per problem. Links with Softsync's Reports Plus.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $199-$1,200

SOFTWARE ARCHITECTURE AND ENGINEERING

☐ KES II (Knowledge Engineering System)
Accepts English-like definitions and converts them into a form suitable for combination with the software. Contains production rules, statistical pattern classification and hypothesis and test subsystems. Each has its own form of knowledge representation and inference mechanism and can communicate with one another.
IBM PC ☐ 640 KB req. ☐ Copies sold: 12 since 1984 ☐ Cost: $4,000-$25,000

☐ KES.BAYES
Includes KES knowledge base parser and user interface system integrated with Bayesian statistical inference mechanism. Appropriate for those applications where knowledge is usually organized around well-known statistical patterns.
IBM PC ☐ 640 KB req. ☐ Copies sold: 40 since 1982

SOFTWARE INTELLIGENCE LABORATORY, INC.

☐ CICS Expert
Knowledge base for CICS programmers. Includes design considerations, problem determination, CICS facilities, BMS, TDQ, VSAM File and DL/I interface, task control, temporary storage, program control, debugging and command level and coding techniques.
IBM PC, XT, AT ☐ Cost: $95

☐ Wizdom
Generic expert system shell.
IBM PC, XT, AT

SOFTWAY, INC.

☐ XPER
Applications include computer assisted education, test and problem solving, help to decision making, diagnosis and scientific and financial applications. Menu-driven with on-line help. The determination is done by a query-response system.
IBM PC ☐ 64 KB req. ☐ Copies sold: 500 since 1984

SOLUTION SYSTEMS

☐ PROLOG-86 Language for Artificial Intelligence
Reviewed Jan 1986 p. 145.
Includes tutorials, documented example programs and Prolog language interpreter. Provides examples of natural language interface to dBASE display command, and small expert system.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $95

☐ TransLISP
Artificial intelligence generation. Interpreter, editor, sample programs and printer.
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SOURCEVIEW SOFTWARE INTERNATIONAL

☐ MicroMind Knowledge Engineering Tool
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☐ Expert Systems Starter Pack
Introduction to expert systems. Covers induction, explanation, representation issues, production rules, forward/backward reasoning, conflict resolutions, navigating large search spaces, heuristics, metarules, and uncertainty. Built around MicroSYNICS, ES/P Advisor, Micro Expert and Expert Ease.
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TEXAS INSTRUMENTS

☐ **Arborist Decision Tree Software**
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☐ **PC Scheme**
Reviewed Aug 1986 p. 29.
Artificial intelligence application development system. Includes debugging, graphics and windowing functions, Scheme Object-Oriented Programming System (SCOOPS) for developing object-oriented applications, ability to handle 8-bit characters for international applications and ability to suspend processing to execute other programs and then return.
IBM PC ☐ 320 KB req. ☐ Cost: $95

☐ **Personal Consultant Expert System Development Tools**
Allows software developers to design and deliver rule-based expert systems on a PC. Explores and develops prototypes of new applications of expert system technology. Contains features necessary to build applications for commercial use. Coexists with conventional applications written for systems compatible with MS-DOS.
IBM PC ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $3,000

☐ **Personal Consultant Plus**
Expert systems for problem solving development. Explains reasoning in English sentences. Incorporates frames, procedural functions, access methods and meta rules. Graphics interface and graphics capturing snap shot. Develops and delivers applications of 2,000 elements.
IBM PC ☐ 512 KB req. ☐ Cost: $2,950

THOUGHTWARE, INC.

☐ **Management Advantage**
Expert system. Helps managers think through how to solve problems by clarifying thoughts, formulating judgements, and following an action plan.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $49

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(division of Expansion Programs International, Inc.)

☐ **Logic-Line 1**
Natural language artificial intelligence. Takes text from any machine readable source and mathematically distills thought patterns for query and analysis.
IBM PC ☐ 90 KB req. ☐ Copies sold: 1,500 since 1985 ☐ Cost: $250

ULTIMATE MEDIA

☐ **Advisor**
Expert system shell. Inference engine with backward and forward chaining, line entry editor, knowledge base editor, and line of reasoning and inference trace reports. Supports negative logic and circular reasoning detection.
IBM PC ☐ Cost: $99-$295

GEOGRAPHIC INFORMATION SYSTEMS

COMPUTER MATHWARE

☐ **Mapware**
Creates color-coded maps such as election districts, or standard maps such as states and ADI regions. Adds titles, legends and annotating text to create customized presentation level, hard copy and output.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $500

DYNACOMP, INC.

☐ **Mapit**
Creates maps. Population density by area, relative concentration of minerals, pictorial representation of city block.
IBM PC ☐ 128 KB req. ☐ Cost: $90

ERDAS, INC.

☐ **Applications Software**
Integrated Image Processing and Geographic Information System. Processes image files on disk and screen. Reads up to 8 channels of data. Displays raw data, image enhancement, interactive training field selection, geometric correction, classification and merging landsat classification into GIS. Full GIS analysis and mapping.
IBM AT ☐ 512 KB req. ☐ Copies sold: 178 since 1979 ☐ Cost: $14,995

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☐ **STATMAP**
Statistical, marketing and demographic mapping. Reads statistical data from dBASE II and ASCII files. Generates maps on screen or plotter by state, county and zip code area. Assists in site selection and analysis, planning, forecasting and other analyses.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $995

GEO BASED SYSTEMS, INC.

☐ **STRINGS**
Handles geographic/mapping graphics. Assists in management, analysis, synthesis, query and output of geographic and tabular information. Handles processing of data for spatial analysis and management of geographic information. Digitizes maps. Edits maps via interactive display and interactive processing.
IBM, PC, AT ☐ 640 KB req. ☐ Copies sold: 70 since 1979 ☐ Cost: $10,000-$50,000

GEOSOFT CORP.

☐ **Map Builder**
Creates color maps at state level for 48 contiguous U.S. states. Dictionary of 72,000 cities and towns. Looks up longitudes and latitudes of city names in customer data files such as mailing lists. Supports data base and word processing programs.
IBM PC, AT, XT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $250-$400

ILLSTON PC-PROGRAMS

☐ **US-ATLAS**
Locates cities and places of interest in U.S. Computes great circle distance. Finds all states with city of the same name. Locates all cities within a radius of a given location. Pre-coded data base contains 29,000 cities and over 1,500 places of interest.
IBM PC ☐ 192 KB req. ☐ Cost: $40

IN-SITU, INC.

☐ **Contur**
Contouring for regularly or irregularly distributed data. Options include labeling, contour levels, flagging of extremes and data values, contouring with various dashed line patterns and overlaying several contour surfaces on same frame.
IBM PC, XT ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $950

☐ **Isopak**
Estimates volume between two contour surfaces and produces isopach maps. For cut and fill operations, mining and petroleum reserve estimations and overburden estimations.
IBM PC, XT

INDEPENDENT COMPUTER SERVICES

☐ **Landimprove**
CAD system for contouring and surface modeling, surface modification and earthwork quantities and drainage design with buried pipeline placement. Utilizes triangulation method. AutoCAD and VersaCAD compatible. Produces 2D/3D representations.
IBM PC ☐ 512 KB req. ☐ Cost: $3,150

☐ **Landimprove AutoCAD and VersaCAD Interface**
IBM PC ☐ 512 KB req. ☐ Cost: $350

☐ **Landimprove Contouring**
IBM PC ☐ 512 KB req. ☐ Cost: $1,975

☐ **Landimprove Contouring and Drainage**
IBM PC ☐ 512 KB req. ☐ Cost: $2,400

☐ **Landimprove Contouring and Earthworks**
IBM PC ☐ 512 KB req. ☐ Cost: $2,400

MICROPLOT SYSTEMS

☐ **CisMap**
Displays hi- or med-res weather map from Compuserv Information Service which was saved on disk file using PC-PLOT. Converts raster scan data from Compuserv to standard Tektronix 4010 command codes.
IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $40

MORGAN-FAIRFIELD, INC.

☐ **DocuMap**
Computer assisted cartography for interactively creating maps and digital terrain models. Outputs choroplethic maps, contour maps, 3D and proportional circle maps and perspective views of digital terrain models. Allows generation of Thiessen polygons, triangular and Bezier-splined contouring and trilateration.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10 ☐ Cost: $1,000

PEERLESS ENGINEERING SERVICE

☐ **PC Digitizer**
Data entered with reference to position on original. Saves data in disk file as entered. Attaches labels, calculates areas, and plots saved files.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,500 since 1981 ☐ Cost: $95

☐ **PC Map**
Geographic package for land surveyors and civil engineers. Contouring from either averaged or kriged grids. All modules accept modified results from ASCII files.
IBM PC, AT, XT ☐ 512 KB req. ☐ Copies sold: 500 since 1982 ☐ Cost: $995

☐ **Stadia Traverse**
Enters information from typical Stadia Traverse Field Notes. Generates coordinate locations, elevations, horizontal distances and true bearings. Each traverse saved in a file. Output reduced to X, Y, Z, label format for use with PES' PC MAP.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 100 since 1981 ☐ Cost: $95

☐ **United States Geological Survey Data Plotting**
Draws plots from any perspective. Draws an enlarged view of portion of data. Determines the elevation of any point on the data surface.
IBM PC, AT ☐ 512 KB req. ☐ Copies sold: 10 since 1985 ☐ Cost: $695

PLANNING DATA SYSTEMS

☐ **MultiMap**
Digitizing and aggregating map display system. Creates custom boundary files. Composes presentation-quality thematic maps in video and hard copy using interactive graphics. Used by urban planners, market researchers, geographers, conservationists and civil engineers.
IBM PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $495

POPULATION COUNCIL

☐ **FIVFIV-SINSIN**
Projects population trends. Analyzes complex changes in each country's population. Produces reports on future population changes.
IBM PC, XT ☐ 256 KB req. ☐ Cost: $25

QUESTIONNAIRE SERVICE CO.

☐ MAPIT
Uses any printer or HP plotter to display maps. Includes conformant, interpolative, and trend surface mapping. Provides outline files for US, Canada, Europe, Africa, South America, Asia and Australia.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $95

☐ MAPIT US County Outline Database
Forty-eight state, US county outline data base. Draws the outside boundaries of each county. Represents county outlines using coordinate pairs measured in radians. Supports ASCII files. Works with MAPIT or other geographic information systems.
IBM PC ☐ Copies sold: 10 since 1985 ☐ Cost: $95

SOFTWARE CONCEPTS, INC. (CT)

☐ Concepts Computerized Atlas
3D representation of globe showing geopolitical map and such data as capital, population and languages for every country in world.
IBM PC, PCjr ☐ 64 KB req. ☐ Copies sold: 10,000 since 1985 ☐ Cost: $70

SPSS, INC.

☐ PC+ Mapping Featuring Map-Master From Decision Resources
Option to PC+. Provides maps from PC+ data. Includes predefined boundaries for state/county lines or zip code zones. User can explode map portions, create legends with titles/labels in various fonts/sizes and move/size maps.
IBM XT, AT ☐ 384 KB req.

UNIRAS, INC.

☐ BIZMAP
Creates world maps with continental and political boundaries in any of 5 standard projections or user-defined projections. Allows combining of maps with business charts.
IBM RT, AT

☐ GEOINT
Companion to GEOPAK. Handles interpolation of gridded data from scattered X, Y and Z data points. Preprocesses map data.
IBM RT, AT

☐ GEOPAK
Subroutines for producing color contour and grid mapping systems. Solves geological, geophysical, thematic, demographic and business mapping questions. Assists interpretation of engineering and scientific data. Displays multi-variate data as 2D and 3D surfaces.
IBM RT, AT

☐ UNIMAP
Interactive mapping application. Produces 2D grids, 2D color shaded contours, multiple 2D projections, 3D color shaded contours, 3D with 2D projection, 3D bar maps and 4D mapped data display.
IBM RT, AT

URBAN DECISION SYSTEMS, INC.

☐ Marketbase
Provides demographic data in DIF and WKS formats for manipulation with all major PC products. Compatible with most DBMSs. Available for all zip codes, counties, MSAs and ADIs. Interfaces with UDS's Onsite to accommodate user-defined areas.
IBM PC ☐ Introduced: 1978

☐ ONSITE
Demographic data retrieval. Features current year and forecasted projections based on population, households, income, age, race and sex. Any size or shape area of analysis.
IBM PC, XT/370, AT/370 ☐ 800 KB req. ☐ Introduced: 1972

☐ SCAN/US
Grid technology displays density by user-defined grids. Available display options include road networks, locations, trade areas and topography. Interfaces with user data for unique grid maps. Interfaces with UDS' Onsite/PC.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $500-$10,000

WEST COAST CONSULTANTS

☐ Curve Contour
Topographic mapping. Provides 2D and 3D views of contours on scaled axes.
IBM PC ☐ Cost: $250

☐ Curve USA
Produces charts of all or any subset of continental USA states with color shading and legends.
IBM PC ☐ Cost: $75

ZEPHYR SERVICES

☐ Bearings
Calculates bearings or great circle directions from one location to another. Designed for radio amateurs. User inputs latitude and longitude. Calculates and prints bearings and distances to over 500 locations worldwide. Uses azimuth system.
IBM PC ☐ 64 KB req. ☐ Copies sold: 500 since 1982 ☐ Cost: $20

GRAPHICS—BUSINESS APPLICATIONS

AARIAC CORP.

☐ XYZ-3D
Moves, rotates or scales structures within project. Creates copies and mirror images at new locations. Defines repeating patterns. Removes hidden lines. Simulation from any viewpoint.
IBM PC ☐ 512 KB req. ☐ Introduced: 1974 ☐ Cost: $795-$1,995

ACCENT SOFTWARE, INC.

☐ TGS: The Graphic Solution
Uses animated text and graphics to explain complex concepts, demonstrate products or services or design and illustrate on computer screen. Teaches non-programmer how to create simplest to most complex graphics for presentations, sales or training.
IBM PC, XT, AT ☐ Copies sold: 4,000 since 1982 ☐ Cost: $150

ADDE MARKETING

☐ Decisionnel Graphics
Uses data from external files. Displays 375 graphs. Includes line, point, line and point, step bar, stacked, pie, pyramid, scatter, numeric table and icon graph types. Graphs in color or monochrome. Provides windowing. Calculates with 30 built-in functions or user-defined functions.
IBM PC, XT, AT ☐ 256 KB req.

ADS IMAGING SYSTEMS

☐ Dial-30
Image processing system. Applicable to pattern recognition, particle analysis, factory automation and medical diagnostics.
IBM AT

ADVANCED GRAPHICS SOFTWARE, INC.

☐ SlideWrite
Text slides on paper and overhead transparencies. Manipulates text to fonts, sizes and weights. Enhances with italics, underlines and color. Highlights with lines, boxes, arrows and circles. IBM and HP plotters/Graphics Printer.
IBM PC, XT, XT/370, AT, 3270-PC, Portable PC ☐ 192 KB req. ☐ Introduced: 1985 ☐ Cost: $225

☐ SlideWrite Plus
Creates pie, bar, line, scatter, area, mixed, hi-low and text charts and diagrams on paper or overhead transparencies. Enhances Lotus 1-2-3 graphs. Figure library. Batch mode unattended printing/plotting. HP and IBM plotters. Epson, Oki, HP and IBM printers.
IBM PC, XT, AT, XT/370, 3270-PC, Portable PC, 3270-AT ☐ 256 KB req. ☐ Copies sold: 1986 ☐ Cost: $345

ADVANCED MATRIX TECHNOLOGY, INC.

☐ AMTgraph
Hi-res color graphics. Accesses data in Lotus 1-2-3 and Symphony work files. Converts and sends data to AMT Office Printer for output at resolutions of up to 240 X 240 dots per inch. Requires AMT Office Printer. Prints charts and graphs.
IBM PC, XT, AT ☐ 640 KB req. ☐ Cost: $49

ADVANCED SYSTEMS CONSULTANTS

☐ Tek-Mar Graphics Library
Graphics amd utility functions. Includes routine which prints hi-res TecMar screen to Epson LaserJet or NEC Printer. Least-squares fitting and plotting with polynomials/cubic splines. Requires TecMar Graphics Master board.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $195

AIMS+PLUS, INC.

☐ Graph Tools
Uses vertical/horizontal bar and 3D pictorial bar charts to graphically analyze data files. Demonstrates relationships between selected fields, linear regression, frequency distribution, mean standard deviation and computations variance. Prints graphs to screen or printer. Stores graphs.
IBM PC

ALPHANETICS

☐ Video Etch
Saves hi-res color graphics line etchings on diskette. Lines, circles, boxes, color, painting, fill, hue control, fine step length, insert text, save and load are available.
IBM PC, XT, PCjr ☐ 64 KB req. ☐ Copies sold: 13,800 since 1981 ☐ Cost: $50

THE AMERICAN COMMUNICATION ARTS ORGANIZATION

☐ Daisy Graphics
Contains over 150 graphic-like files which can be copied to working files while operating any full-size word processing program. Works with variety of printers. Allows graphic effects for daisy wheel and other cast-element printers.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $74

ANALYTICAL SOFTWARE

☐ Boardroom Graphics
Shaded and unshaded bar, text, trend line, organization charts, regression, scattergrams, pie or line charts and 3D graphics on screen, paper or transparencies.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 250,000 since 1983 ☐ Cost: $150

ANALYTX INTERNATIONAL, INC.

☐ MonoGrafx
Forms design. Overhead presentation slides. Free-form drawings, organization charts, block diagrams, calendars, bar charts, schedules, and business forms with/without graphics board. Text can be of different sizes. Up to 11 x 14 inch printouts.
IBM PC, XT, AT ☐ 320 KB req. ☐ Introduced: 1985 ☐ Cost: $99

APG SOFTWARE

☐ INSET
Merges hard-copy output from graphics screens with text output from standard applications. Merged documents sendable via electronic mail. Rotates, expands and contracts image sizes. Supports color printers. Prints borders around images and with multiple passes.
IBM PC ☐ 80 KB req. ☐ Copies sold: 2,500 since 1985 ☐ Cost: $149

APPLICATION TECHNIQUES, INC.

☐ **Color Screen Print**
Prints screens as is or makes color, size, locational, rotational and density changes before printing. Sixteen predefined colors.
IBM PC, XT, AT, PCjr ☐ 48 KB req. ☐ Cost: $80

AT&T

Electronic Photography and Imaging Center

☐ **Truevision Image Paint Software (TIPS for VDA/D)**
Draws, doodles, duplicates, manipulates and formats images. Includes 32,000 colors. Works pixel by pixel for detail or by screenful. Performs 20 drawing functions. Stores creations. Sends images to another PC via modem. Used with AT&T Truevision Video Display Adapter.
IBM PC, XT, AT ☐ 384 KB req. ☐ Introduced: 1985 ☐ $250

☐ **Truevision Image Processing Software (TIPS for ICB and TARGA)**
Digitizes video images. Creates images. Airbrush, retouch and redesign. Changes colors, tints and shades. Copies and blends screen portions. Adds digitized elements from other electronic photographs. Superimposes text and graphics. User-created graphics. Used with Truevision Advanced Raster Graphics Adapter or Image Capture Board.
IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $695-$1,250

☐ **Truevision PC Carousel Presentation Software**
Arranges and displays Truevision Image Capture Board, Targa 16 or Video Display Adapter images in electronic slide show. Supports 12 fades, dissolves and wipes.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $150

AT&T INFORMATION SYSTEMS

☐ **Business Graphics Presentation Software**
Uses data from spreadsheet packages to generate a variety of standard graph and chart formats, including 2D and 3D bar and pie charts.
IBM PC

☐ **Image Director**
User can scan any 8 ½ X 11 ½ hard-copy image into PC, modify or manipulate, add or delete elements, store and send to compatible system or print.
IBM PC ☐ Cost: $350

☐ **Truevision Paint and Image Processing Software**
Real-time image processing on photographs from AT&T Image Capture Board. Handles color manipulation, text overlay, multiple image merging, drawing and layout.
IBM PC

AUTO-TROL TECHNOLOGY CORP.

☐ **Redliner**
Downloads, views, reviews and annotates drawings created on Auto-trol's AGW or DEC VAX. Redline annotations include text and symbols such as circles and rectangles. User can add comments and details and point out errors on image. Returns redline file to host.
IBM PC, XT, AT ☐ Cost: $1,000

AUTOGRAPHIX, INC.

☐ **Autographix 35 Presentation Graphics Software**
Design and imaging of high-quality, hi-res, full-color 35mm slides and other graphics for speaker support.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ $895

AZTEK, INC.

☐ **Artcenter 20**
Permits ten users to simultaneously perform design, art and business graphics. Moves, rotates, copies, mirrors and scales. Multi-image animation capabilities. Utilizes a DBMS, symbol library and security system.
IBM PC

☐ **PCchart**
100 pre-formatted business charts, graphs and wordslides for presentation graphics. 14,000 colors and shaded areas. Telecommunicates slide files via modem to independent Aztek service centers.
IBM PC ☐ 448 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $1,395

☐ **Slidegraphic II**
Conversational creation, manipulation, storage and recall of free-form art, charts, graphs, text and composite visuals. Outputs to film recorders, printers and plotters. Features 14 fonts, symbol libraries, editing, and pan, zoom and scroll for animated effects.
IBM PC, AT ☐ 64 KB req. ☐ Copies sold: 168 since 1979 ☐ Cost: $28,888

BANNER BLUE SOFTWARE, INC.

☐ **Org Plus**
Creates organization charts. Shows each manager with direct subordinates. Draws and spaces boxes, centers text and lays out connecting lines. Allows chart revisions. Handles up to 250 employees and 99 levels. Provides staff and dotted-line reporting relationships.
IBM PC, XT, AT, PCjr, Portable PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $70

BASIC BUSINESS SOFTWARE, INC.

☐ **Plotting**
X, Y data prints file. Horizontal and vertical axes, plot scale control, removal of printer distortion and printing of values on each line of plot. Creates, prints and sorts data file.
IBM PC ☐ Cost: $50-$75

BIG TREES SOFTWARE CORP.

☐ **GRAF**
Scales data, centers titles and justifies labels. Produces pie, x-y line, separate, joined, stacked, comparative bar charts, scatter plots and trend lines.
IBM PC ☐ Copies sold: 2,000 since 1981 ☐ Cost: $295

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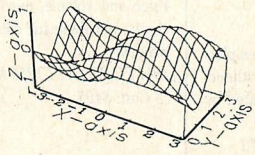
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BORLAND INTERNATIONAL, INC.
SEE AD ON INSIDE COVER & PAGE 1

☐ **Turbo Graphix Toolbox**
Provides library of hi-res, monochrome graphics procedures and functions to be used in conjunction with Turbo Pascal programs. Tools for graphics window management, precise plotting of curves, curve fitting and drawing geometric shapes.
IBM PC, XT, AT, 3270-PC, PCjr, Portable PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $55

BRIGHTBILL-ROBERTS/THE MARKETING CHANNEL AND CO., LTD.

☐ **Graph Magic II**
Draws pie charts, bar charts and graphs. Requires graphics adaptor and color monitor.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $100

☐ **Graphmagic**
Pie, bar, scatter, line or combination graphs from numeric data. Adds text, overlaps graphs, supports most printers and operates independently. Titling and labeling facility.
IBM PC, XT, AT ☐ 48 KB req. ☐ Copies sold: 10,000 since 1982 ☐ Cost: $90-$100

☐ **Inset**
Expands, shrinks, clips, rotates and places images in document for printout on dot matrix and laser printers. Co-resides with other programs. Displays image size inside word processor. Changes screen color to printer ink.
IBM PC, XT ☐ 75 KB req. ☐ Copies sold: 10,000 since 1985 ☐ Cost: $149

☐ **Show Partner**
Includes graphics animation and special/sound effects. Draws graphics while creating script. Graphics editor. Performs cut, copy, paste, mirror, shrink, enlarge, fades, wipes, weaves and scrolls. Captures/edits text and graphics from any program. Provides 20 fonts and 200 stock clip art images.
IBM PC, XT, AT ☐ Cost: $79

BUSINESS & PROFESSIONAL SOFTWARE, INC.

☐ **Business Graphics**
Creates bars, pies, lines, areas, and scattergrams in any combination. Users can place titles, axis labels, moveable titles and legends.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 10,000 since 1982 ☐ Cost: $350

☐ **Overhead Express**
Creates transparencies with dot matrix printer and office copier or color paper copies and color printer. Contains/modifies 12 preformatted page layouts or creates page layouts. Four typefaces in 5 sizes. Includes boxes, lines, symbols and screen show facility for on-line presentations.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1984 ☐ Cost: $195

☐ **35mm Express**
Creates word charts, graphs or freehand drawings. Multiple images on single graphic. Imports Lotus 1-2-3 and Symphony files. Produces slides with Polaroid Palette, Bell & Howell CDI-IV film recorders or transmits to MAGICorp Slide Service. Paper copies and transparencies on dot matrix/laser printer.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $695

BUTTONWARE, INC.

☐ **PC-Graph**
Produces line graphs of PC-File III and PC-File/R data bases or reports. Plots up to 1,000 data points. Graphs stock market closing prices, periodic sales or volume figures, and statistical samplings or tests results. Prints graphs on IBM or Epson graphics printers.
IBM PC ☐ 192 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $60

BV ENGINEERING

☐ **PDP (Plotter Driver Program)**
Provides multi-color scientific and financial graphs on pen plotters. Provides 2 Y axes. Each axis may be linear or logarithmic, auto-scaled or forced, with full labeling. Plots files created by Lotus 1-2-3, VP-planner, PFS:write, BASIC and Pascal.
IBM PC ☐ 60 KB req. ☐ Introduced: 1986 ☐ Cost: $73

C SOURCE, INC.

☐ **BC Graphics**
Draw, line, circle, paint, point, Bload, Bsave, screen, Pset, color, put and get (animation), and relative coordinates. Supports most MSDOS C compilers.
IBM PC, XT, AT, PCjr ☐ Cost: $75

C & C ENGINEERING

☐ **AU2 Mapping**
Computer-aided mapping and design system. Stores, retrieves and edits graphic data bases. Creates maps from digitizer tablet or from keyboard using coordinate data base. Seven methods of data entry and 8 character fonts.
IBM PC ☐ 640 KB req. ☐ Copies sold: 15 since 1984 ☐ Cost: $22,000

☐ **Plotter Scribe**
Lets plotter print text at any size, direction and location, using 1 of 8 included text fonts, user-defined text font or any of plotter's internal fonts. Works with HP 7475 and 7500 series and Houston Instrument plotters.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 12 since 1985 ☐ Cost: $90

CEEGEN CORP.

☐ **GKS**
Based on Graphics Kernel System. Used in integrated businesses for outputs and interactive business with CAD/CAE/CAM for outputs, inputs, metafile operations and segments. Handles locator, stroke, choice, valuator, string and pick.
IBM AT ☐ Introduced: 1985

CHANG LABORATORIES, INC.

☐ **GraphPlan**
Explodable pie charts, line and bar graphs, scattergrams, statistics, titling, logarithmic scaling and work checking before printing.
IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $295

CHARTPAK
(subsidiary of Times Mirror Co.)

☐ **Artwork**
Creates solid shapes and can smooth, shade and rotate them in 3D. Color ramping available. Includes airbrush, cut and paste and shading. Supports Matrix QCR 400, plotter and ink jet printers.
IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 12 since 1985 ☐ Cost: $2,995

☐ **Picture This**
Draws freehand and paints nib boxes, circles, ellipses and lines. Thirty type fonts are available. Images can be duplicated, scaled, rotated and mirrored. Supporting hardware includes hi-res graphics circuit card, RS170 color monitor and digitizing tablet.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 30 since 1984 ☐ Cost: $2,495

☐ **Picture This Chart**
Creates pie, bar and line charts, histograms, and scattergrams. Works with Chartpak's Picture This. Handles Lotus 1-2-3 and VisiCalc data. Uses 4,069 colors.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 16 since 1985 ☐ Cost: $895

CHORUS DATA SYSTEMS

☐ **IMiGIT**
Icon-driven image editor.
IBM PC ☐ Copies sold: 300 ☐ Cost: $295

CITICORP INVESTOR SERVICES

☐ **Citiquote Technical Analysis Package**
Price and volume, moving average charts, point and figure charts, and automatic data capture. Linear regression. Multiple windows.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 109 since 1985 ☐ Cost: $495

CLASSROOM CONSORTIA MEDIA, INC.

☐ **Superdraw**
Creates detailed drawings and graphic illustrations. Allows geometric shapes, mirror images, blowups, painting in eight colors or color mixtures, custom characters, shapes overlaying and direct transmission to printer.
IBM PC, XT, AT, PCjr, Portable PC ☐ 128 KB req. ☐ Cost: $195

COMMUNICATION DYNAMICS, INC.

☐ **Quick Fix Graphics I and II**
Provides each graphic symbol as template file in 1 of 4 subdirectories. Changeable sizes, colors and fill patterns. Includes transfer program for copying diskette to hard disk.
IBM PC ☐ Cost: $40

☐ **Sound Presentations**
Presentation graphics. Template/symbol library. Includes top metro markets, world continents, U.S. map with and without state boundaries, and organizational and flow charts. Performs zoom and pan. Works with Lotus 1-2-3 and Symphony.
IBM PC ☐ Cost: $300

COMPUTER ASSOCIATES INTERNATIONAL, INC.

☐ **CA-Showmacs**
Integrates text, color graphics, rolling titles, animation and special effects. Multiple/user-defined fonts. Makes transfers to video cassette, transparencies and slides. Integrates with graph, charting and spreadsheet packages.
IBM PC ☐ 64 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $495

COMPUTER GRAPHICS GROUP, INC.

☐ **PC Illustrator**
Combines features for computer art, word charts, maps, graphs and flow charts. Provides symbolic picture icons. Supports digitizer, mouse, lightpen or IBM keyboard.
IBM PC ☐ 192 KB req. ☐ Copies sold: 2,500 since 1983 ☐ Cost: $95

☐ **ProGraf**
Generates business graphics including line, bar, area, pie and text charts. Supports ratio, hi-lo, decision, organization, PERT, loading, histogram and variance charts. Merges multiple graphs or pictures on same slide. Ten type fonts in 10 sizes with different slants.
IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $149

COMPUTER SUPPORT CORP.

☐ **Diagraph**
Business graphics. Provides over 2,200 predefined symbols for creating presentation aids such as organizational pie/bar/line charts, forms, flowcharts, diagrams, signs and word charts. Includes image manipulation, text and line-drawing capabilities.
IBM PC, XT, AT ☐ 384 KB req. ☐ Cost: $395

☐ **Picture Perfect**
Bar, pie, line and bar/line charts. Two independent Y-axes, overlapping bars, window numbers, and legends/text blocks anywhere in chart.
IBM PC, XT, AT ☐ 384 KB req. ☐ Cost: $295

COMPUVIEW PRODUCTS, INC.

☐ **V-GRAPH**
Designed for industrial and engineering sites and for CAD design and manufacturing installations.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $120

COMPUVISION INTERNATIONAL

☐ **Giraph Business Graphics**
Design control includes colors, hatching, labeling and layout. Uses data from Lotus 1-2-3, Multiplan and user-created file. Views graphs before plotting. Creates line, bar, pie and text charts.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 2,000 since 1982 ☐ Cost: $99

COMSHARE, INC.

☐ W/Graphics
Produces bar, pie, line, filled area, text, scatter, X-Y and combination charts in up to 16 colors. Charts displayed on IBM 3279 color screen, PCs, or printed on IBM 3287 printer.
IBM XT, AT ☐ Cost: $5,000

CONCEPT OMEGA CORP.

☐ ConceptG
Business graphics package. Produces horizontal and vertical bar charts. Creates charts with data retrieved from any Business BASIC data file. Includes labels, headers, footers and value displays options.
IBM XT, AT ☐ 128 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $595

CONCEPTUAL SOFTWARE, INC.

☐ Prodas/Graphics
Dispalys X vs. Y plots, pie and bar charts. Handles unlimited plots per page. Supports IBM PC Graphics Screen and Printer, Epson compatible Graphics Printer, and HP-7470 2 or 6 Pen Plotter. Integrates with PRODAS system.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $365

CONTINENTAL RESOURCES, INC.

Peripherals Division
☐ CP/Graph I
Bar graphs, stacked bar graphs, stick graphs and line graphs.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 3,000 since 1983

CUBICOMP CORP.

☐ ModelMaker (3 Dimensional, Solid Modeling Graphics System)
3D model construction for display purposes. Models are assembled from planar polygons. Supports flat, smooth and constant shading.
IBM PC, XT ☐ 512 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $11,900

☐ Paint/10
Runs in conjunction with ModelMaker Modeling System, a 3D graphics system.
IBM PC ☐ 500 KB req. ☐ Cost: $3,100

CYBERRESEARCH, INC.

☐ CyberChrome
Provides photographic slide, print, and transparency creation for data presentation. Provides chart generation from data files or manually entered data, graphics pick-up from other software, and graphics manipulation to create the final image.
IBM PC, XT, AT

☐ Engineering Graphics Software
Prepares graphic display or plot of acquired data. Uses plotting symbols, error bars, multiple ordinates and superimposed graphs. Includes curve fitting, data smoothing, histogram fits and derivative calculation.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $350

DATA BUSINESS VISION, INC.

☐ GDSS (Graphic Decision Support System)
Handles rate of change, moving average, cumulative add, linear regression in semi-log and log-log scaling. Provides free-drawing editor. Includes utility to create data bases.
IBM PC, XT, AT ☐ 320-512 KB req. ☐ Copies sold: 400 since 1982 ☐ Cost: $795

☐ GraffHopper
Reduces chart building to a series of keystrokes. Provides 100 on-line charts from pies, smooth lines, symbols and multiple axes/curves.
IBM PC, XT, AT ☐ 256-512 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $295

☐ Private Eye
Displays on-line graphic reports under custom menu system. Reports can be updated from data files. Works with GDSS or GraffHopper.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $99-$395

DATA INNOVATIONS, INC.

☐ Expert Designer
Presentation-quality slideshow generator.
IBM PC ☐ Introduced: 1985 ☐ Cost: $8,500

DECISION GRAPHICS, INC. (CO)

☐ Organization
Creates, edits, updates, prints or plots organization charts for up to 58 employees, two title lines and a footnote. Charts may be saved for later use, or information may be added, deleted or changed.
IBM PC, AT, XT, PCjr ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $95

☐ Signmaker
Creates text signs on paper and transparencies for presentations. Provides automatic or manual selection of character size, text location, plotter pens, paper size, starting location and direction of print.
IBM PC, AT, XT, PCjr ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $75

☐ Type Shop
Creates, edits, saves or retrieves text slides for presentations. Provides automatic or manual selection of paper size, starting location, height and width of characters, justification, direction of print and option of plotting on paper or transparencies. Eleven optional fonts.
IBM PC, AT, XT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $175

DECISION IMAGES

☐ ReSource 1
Graphics and image processing. Manipulates hue/intensity. Uses vector or line graphics with images. Shows user effect of each command step-by-step in real time. Requires graphics pad.
IBM PC ☐ Cost: $1,975

DECISION RESOURCES, INC.

☐ Chart-Master
Chart text and data is entered manually or from VisiCalc or Lotus 1-2-3 files. Chart formats include line, hi-lo-close, scatter, bars, pies and area charts. User can choose color, fonts, 94 symbols, underlining, margin justification and italicizing.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 192 KB req. ☐ Copies sold: 45,000 since 1981 ☐ Cost: $375

☐ Diagram-Master
Organization and Gantt charts. User can command boxes, circles, arrows, lines and other shapes and text. Library contains 101 shapes. Free form drawing using drawing board. Permits choice of color, 7 fonts, 94 symbols and 16 sizes text.
IBM PC, XT, AT, Portable PC, 3270-PC ☐ 320 KB req. ☐ Copies sold: 20,000 since 1985 ☐ Cost: $345

☐ Map-Master
Plots geographic territories by state, county or zip code. Creates custom regions as in sales territories. Shades and hatches. Capability to import from Lotus spreadsheet. Supports over 60 different plotters and 100 printers.
IBM PC, XT, AT, 3270-PC ☐ 384 KB req. ☐ Cost: $395

☐ Sign-Master
Word charts, tables and text pages. Permits choice of color justification, 7 fonts, 94 symbols, italics, plotting options and underlining. Outputs on paper, transparencies, slides or Video Show.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 192 KB req. ☐ Copies sold: 30,000 since 1983 ☐ Cost: $245

DICOMED CORP.

☐ PresenterPC
Slides and overheads. Taps DIF files from data base/spreadsheet programs to generate charts and graphs. Tools include 2 graphics arts quality fonts, lines, circles and rectangles. Compatible with DICOMED design stations.
IBM PC, XT, AT, Portable PC ☐ 256 KB req. ☐ Copies sold: 700 since 1985 ☐ Cost: $995

DIGITAL RESEARCH, INC.

☐ GEM Draw
Creates charts diagrams and illustrations. Provides library with 40 pieces of preprogrammed artwork. Provides picture elements menu from which user selects rectangles, rounded boxes, circles, polygons, lines, arcs and text. Drop-down menus, icons, scroll bars and windows.
IBM PC ☐ 256 KB req. ☐ Cost: $249

☐ GEM Graph
Draws comparisons, expresses trends and maps out sales areas. User creates graphs by choosing from pie charts, bar graphs, symbols, maps, colors, text sizes/styles, fill patterns, textures and depths. Interfaces applications including Lotus 1-2-3, Symphony and dBASE III.
IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $249

☐ GEM Paint
Creates color pictures. User can sketch, outline, spray paint, erase, highlight and shade. Draws shapes from menu. Provides 21 preprogrammed patterns and user-created patterns. User adds captions, titles and legends. Includes icons, drop-down menus, windows, scroll bars and 16 colors.
IBM PC, XT, AT ☐ 256 KB req.

☐ GEM WordChart
Organizes, emphasizes and presents words with charts. Creates agendas, expresses trends, emphasizes points and sets tables. Provides colors, bullets, checkmarks, bold, italic, underline, type sizes, front styles and borders. Allows user-defined titles, footnotes and formats.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $149

DUNCAN-ATWELL COMPUTERIZED TECHNOLOGIES, INC.

☐ LENIBASE: The Graphic Data Base and Animation System
Uses movement scripts written by light pen, joystick, mouse, GTCO Digitizing Pad or Koala Pad. Special effects, soundtrack, perpetual actions, voice output, boomeranging, floats, reverse action, speed control, lights, duration, and selective scenery.
IBM PC, XT ☐ 256 KB req. ☐ Cost: $275

☐ LENIFLOW/3270: Intelligent Flowcharting System
Constructs schematic drawings, flowcharts, text and organizational charts, process-flow diagrams, floor space layouts and facilities planning. Performs scroll, pan and jump in 8 directions.
IBM 3270-PC/G, GX, 3270-PC, AT ☐ 320 KB req. ☐ Cost: $795

☐ LENIGRAPH: Graphic Editing and Flowcharting System
Free-hand art, electronic crayons, electronic graph grid, color mixing, multi-screen editing, painting, 16 background colors, graphic language interface, CAD/CAM circular, linear and linkage editors.
IBM PC, XT ☐ 256 KB req. ☐ Cost: $250

☐ LENIMATION/jr: Video Animation System
Builds animation sequences using light pen, joystick, cursor control or Koala Pad.
IBM PC, XT ☐ 128 KB req. ☐ Cost: $150

☐ LENIPAINT
Creates graphics using mouse, lightpen, keyboard or digitizing tablet. Includes electronic crayons, graph grid, color mixing, free-hand art, ribboning, 16 background colors and 256 type texture patterned. Cut and paste. Supports BASIC, Bitmap and VDI file formats and IBM enhanced graphic card for 64 colors.
IBM PC, XT ☐ 256 KB req. ☐ Cost: $395

☐ LENIPEN/AT: Intelligent Color Graphics System
Command sets include business graphics, animation, flow charting, organizational charts, graphic data base, CAD and slide presentation facility. Supports light pen, Microsoft Mouse, Logimouse, Koala Pad, GTCO Digitizing Tablet, Bitmap, Basic and VDI formats.
IBM PC, AT ☐ 256 KB req. ☐ Cost: $895

☐ **LENIPEN/XT: Integrated Color Graphics System**
Command sets include animation, CAD, business graphics, video typesetting, flow charting, organizational charts, graphics data base and slide presentation facilities. Supports light pens, Microsoft Mouse, Logimouse, Koala Pad, joystick, digitizing cameras, color printers and voice output.
IBM PC, XT ☐ 256 KB req. ☐ Cost: $695

☐ **LENIPEN/3270: Intelligent Color Graphic System**
Supports ergonomic graphic input devices such as Microsoft mouse, PC mouse, LENIPAD, GTCO or KURTA digitizing tablets. Comprises symbolic icon command sets. Constructs large schematic drawings and scrolls, pans or jumps thru them in 8 directions.
IBM 3270-PC, AT, 3270/G, GX ☐ 320 KB req. ☐ Cost: $995

☐ **LENIPREZ: Project management Graphics**
2D and 3D pie, bar, organizational, Gantt, pert, flow charts, line graphs and free-form graphics. Supports lightpen or mouse. Free-hand art, vectors, animation, sound and voice output. Slide presentation facility.
IBM PC, XT ☐ 256 KB req. ☐ Cost: $595

☐ **LENISPEED: Rapid Computer Graphics Service**
Converts graphic image files to photographic slides or hardcopy. Typesets large scale and multi-colored graphic characters. Slide presentations.
IBM PC, XT

☐ **LENITEXT: On Video Typesetting System**
Photographic slides, posters, book covers and full scale presentations. Greek symbols, superscript, math symbols, and foreign language characters and graphics. Characters can be sliced, stripped, polka dotted, mirrored, rotated or enlarged.
IBM PC, XT, PCjr ☐ 256 KB req. ☐ Cost: $395; $150 (PCjr)

DYNACOMP, INC.

☐ **Data Plotter**
Creates graphs on printer. Allows uneven spacing of points, unlimited number functions on 1 graph and automatic/manual scaling. Choice of graph size. Eleven symbols in 6 sizes for line graphs and scatter plots. Shading for pie charts and bar graphs.
IBM PC ☐ 64 KB req.

☐ **Plot**
Plots and processes data or curves. Processing features allows user to switch back and forth between linear, semi-log, and double-log scales, to calculate and plot inverse, power and linear functions of data point.
IBM PC ☐ 16 KB req. ☐ Cost: $30

DYSAN CORP.

☐ **Boardroom Graphics**
Turns data from spreadsheets and other data bases into 3D graphics. Provides line charts, scattergrams, bar graphs, cluster bars and pie charts.
IBM PC, XT ☐ 128 KB req. ☐ Introduced: 1985

ELECTRONIC COTTAGE, INC.

☐ **IMAGE (Image Management System)**
Combines business graphics, CAD and free-form drawing capabilities. Handles what-if questions. Images can be modified, combined, moved, copied, scaled and zoomed. Handles 256 columns by 256 rows, 638 monochrome pixels or 318 pixels in 16 colors.
IBM PC ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $995

ENERTRONICS RESEARCH, INC.

☐ **EnerCharts**
Creates pie, bar, text and line charts in 2D/3D. Produces gantt, scheduling, text and symbol charts. Customizes graphs on-screen with text, color, sizing and overlays. Merges 4 charts on one screen.
IBM PC, XT, AT, 3270-PC ☐ 384 KB req. ☐ Copies sold: 2,000 since 1986 ☐ Cost: $395

☐ **EnerGraphics**
Business/presentation graphics and drawing/design. Pie, bar or line charts in 2D/3D, text and organizational charts. Merges 4 charts on screen. Adds text, lines and symbols. Changes text font, size, color, slant and angle. Free-form/mechanical/technical drawings, flow charts, electrical schematics and floor plans.
IBM PC, XT, AT, 3270-PC ☐ 384 KB req. ☐ Copies sold: 35,000 since 1983 ☐ Cost: $595

☐ **Enermerge**
Combines graphics with text documents. Prints merged letter/report via word processor. Captures/saves images. Displays image boundaries on text screen. Memory-resident. Performs clip, rotate, increase/decrease and printing specifications. Allows password protection. Works with most word processors.
IBM PC, XT, AT ☐ 85 KB req.

ENTER COMPUTER, INC.

☐ **Typ-Set-Lettering Software**
Generates art quality lettering for presentation graphics, using selection of font styles, shading and colors. Creates 35mm slides when connected to a video image recorder such as the Polaroid Palette.
IBM XT, AT, PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $199

ESSENTIAL SOFTWARE, INC.

☐ **Essential Graphics**
Draws horizontal and vertical pie and bar charts. Supports animation (get and put), filling (paint) and user-definable patterns. Utilizes any of 500 fonts and clip art sets.
IBM PC, XT, AT ☐ Cost: $250

EXECUCOM SYSTEMS CORP.

☐ **Impressionist**
Multi-color presentation graphics. Chartbook contains more than 100 graphic types. Selected graphs can be enhanced or altered using menu selections to thicken lines, change font sizes and typefaces, correct errors, change chart types, rotate images, enlarge or reduce, and move legends. Graphics editor.
IBM PC, XT, AT ☐ Copies sold: 100 since 1985 ☐ Cost: $995

FLOWERSOFT

☐ **Banner-Rama**
Prints banners, signs and announcements. Produces 6" x 3 ½" letters in four formats.
IBM PC, XT ☐ 128 KB req. ☐ Cost: $29

FOX & GELLER, INC.

☐ **dGRAPH**
Reviewed Jun 1984 p. 117.
Graphics for Ashton Tate's dBASE II. Provides pie, bar, line and pie-bar charts. Includes data entry procedure and data base analysis ability.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $195

☐ **GRAFOX**
Allows user to define a data base and then produce pie, bar, line and pie-bar charts.
IBM PC ☐ 96 KB req. ☐ Introduced: 1983 ☐ Cost: $99

☐ **R:graph**
Produces color charts and graphs from R:base files. Creates multiple charts on a single printout.
IBM PC, XT ☐ Cost: $195

GENERAL PARAMETRICS CORP.

☐ **Picture It**
Creates graphics. Provides predesigned word charts, bar charts, pie charts, organizational charts, graphs, diagrams, flow charts and Gantt charts. Creates disk to be used with VideoShow. Produces slides, overheads and hard copy with PhotoMaker and PrintMaker.
IBM PC ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $700

GENIGRAPHICS CORP.

☐ **Series 1000 XT**
Business graphics upgrade program. Creates charts, graphs and other business communications graphics. Includes RGB video card, hi-res RGB monitor, and dual function async/RAM card.
IBM PC, XT ☐ 256 KB req.

GEOCOMP CORP.

☐ **GRAFKIT**
Converts complex data into presentation/report graphs on screen, printer or plotter. User-controlled chart elements. Produces line graphs with linear and log scales, scatter plots, hi-lo graphs, bar and pie charts. Unlimited data points, graph elements or chart types per graph.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $395

GOLDEN SOFTWARE, INC.

☐ **Golden Graphics System**
For scientific research, medical research or business applications. Hi-res XY, bar, pie, line and scatter graphs. 3D surface plots from irregularly spaced data. Generates contour maps with in-line contour labels. Business graphics.
IBM PC ☐ 128 KB req. ☐ Copies sold: 3,000 since 1983 ☐ Cost: $299

☐ **GRAPHER**
Represents 10,000 XY data pairs with ten scales on one graph. Uses linear-linear, log-linear, linear-log or log-log axes without grid lines and scaling. Plots error bars. Performs four types of curve fitting.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $199

☐ **PLOTCALL**
Users can create reproducible graphs, charts, and drawings, annotated with alphanumerics and special symbols. Accesses dot matrix printer as if it were digital pen plotter. Interprets numerical commands in data file.
IBM PC ☐ 128 KB req. ☐ Copies sold: 3,000 ☐ Cost: $149

GRAPHIC M*I*S, INC.

☐ **Fingraph 11**
Graphic MIS. Updates information from application, spreadsheets or data base. Slide show chart presentation features. Traces performance problems department by department, territory by territory irrespective of currency/languages.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2,000 since 1982 ☐ Cost: $295-$5,000

☐ **Speech*Maker**
Presents information using a PC and printer or plotter to make such visual aids as flow charts and organization charts. Mixes graphics and text. Includes 100 predefined formats. Performs save/delete.
IBM PC ☐ 256 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $70

GRAPHWARE, INC.

☐ **Charts Unlimited**
Flow charts, floor plans, organizational charts, forms, business charts, PERT charts and block/wire/circuit diagrams. Provides 36 predefined objects and 36 special symbols.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 800 since 1983 ☐ Cost: $195-$295

GRID SYSTEM CORP.

☐ **Paint**
Stores and recalls images. Draws circles, rectangles, lines and freeform shapes. Moves, duplicates or erases any image. Images can be superimposed, inverted, merged or mirrored. Provides zoom-in.
IBM PC

☐ **Plot**
Management tool for analyzing, reviewing and presenting financial and tabular information in graphic form of bar, line, pie or scatter charts.
IBM PC ☐ Introduced: 1982 ☐ Cost: $250

GSS

☐ **Grafstation**
For VDI standard graphics. Allows micro to perform as full-function intelligent graphics terminal for host-based VDI applications. Offloads graphic tasks from host to micro.
IBM PC ☐ 192 KB req. ☐ Cost: $250

☐ **Solutions GSS-Chart**
Icon-driven presentation graphics. Bar, pie, scatter, text and line charts. Outputs up to 4 charts per display or page. Symbols library provides simple drawing functions. Supports over 65 I/O devices. Compatible with Lotus 1-2-3 and Multiplan data files.
IBM PC ☐ 512 KB req. ☐ Cost: $295

☐ **Solutions GSS-Plottalk**
Bar, pie, line, stair, scatter and text chart making. Line and fill style, bar and pie outline, and text font selection. Output device independent. Natural language commands.
IBM PC ☐ 256 KB req. ☐ Cost: $295

☐ **Toolkit Plotting System**
Subroutine library for creation of 2D charts for line, bar, pie, scatter, step, area, text-only and schedule presentation in business and scientific environments.
IBM PC ☐ 192 KB req. ☐ Introduced: 1983 ☐ Cost: $495

GTCO CORP.

☐ **GAP 1 (Graphic Analysis Package)**
Allows digitizer to emulate an electronic planimeter for computing perimeters, lengths, distances and areas of polygons. Reduces graphic data to digital format. Requires Digi-PAD 5 digitizing tablet.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $450

HEX FF, INC.

☐ **GRAF/HEX**
Includes pie, line and bar charts. Text can be produced in variable character sizes and types. Saves charts. Produces charts in 8 colors. Interfaces with spreadsheets.
IBM PC ☐ 512 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $595

HONEYWELL INFORMATION SYSTEMS, INC.

☐ **Graph6**
Consists of Graph6 Executive, Graph6 Interactive Facility, Graph6 Workstation Facility, Graph6 Application Development Facility and Graph6 Device Controller Facility. Creates pie, schedule, line, bar, scatter, step, area, deviation and text only charts.
IBM PC ☐ 384 KB req. ☐ Cost: $1,375-$2,485

HYPERGRAPHICS CORP.

☐ **HG StoryBook**
Creates graphics presentations. Combines animation, branching and external program references on 1 screen. Performs animation at 99 different speeds. Includes different move options and mouse functions.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 100 since 1986 ☐ Cost: $175

☐ **Presentation Graphics System**
Allows a graph from another software package to be pulled into HyperGraphics. Provides pie, bar, area graphs and 3D bar charts. Function key creation of graphic symbols and animation.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $349

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ **Animation Creation**
IBM no. 6024-082. Creates animation sequences on color display by drawing, copying and layering pictures, then displaying them in rapid sequence. Animation speed is user controlled. 16 foreground and eight background colors using 95 text characters and 160 special characters.
IBM PC, XT, PCjr ☐ Cost: $40

☐ **Color Graphics Editor and Picture Plot**
IBM no. 4421-760. Graphics editor creates/modifies files and retrieves flow charts, files, diagrams and free-form sketches. Plots editor output or other files in Picture Interchange Format.
IBM 3270-PC

At last! - Fast, On-screen

FLOWCHARTS

Finally! An on-screen flowchart processor that knows about flowcharts - not just another "screen draw" program that makes you do most of the work.

Interactive EasyFlow is a powerful full-screen graphics program dedicated to flowcharts and organization charts. With this program you can quickly compose charts on the screen. More important, you can easily modify charts so they are always up to date.

Features: • Text is automatically centered, character by character, within shapes as you type it • Text formatting controls allow you to over-ride the automatic formating where desired • Lines are created by specifying the starting and ending points - the program automatically generates the route • Cut and paste facility allows arbitrary chart fragments to be moved, copied rotated, reflected or sent to/from disk • Shape insert-delete and row/column insert-delete • Charts can be up to 417 characters wide by 225 lines high. Charts too wide for the printer are automatically printed in strips. • Charts can be larger than the screen - the window into the chart scrolls both horizontally and vertically as necessary • Works with many popular matrix printers including Epson, IBM graphics printer and compatibles. Full support for HP LaserJet and LaserJet Plus. Works with HP 7475A (& compatible) plotters. Can be used with ANY printer when non-graphic (character) output is acceptable • All standard flowcharting shapes included • Most shapes supplied in large, medium and small sizes • Extensive manual (100+ pages) includes many examples • Context sensitive "help" facility provides immediate assistance at any time • Any number of titles can be placed on a chart • Commentary text blocks can be placed anywhere in the chart • Fast: written in assembly language • Plus many more features than we can mention here

Requires at least 320K memory, DOS-2 or higher and an IBM or Hercules compatible graphics card. On EGA, full 640x350 resolution is used.

Order direct for only **$149.95** + $2.00 S&H (USA/Canada), $10.00 (foreign). Payment by MO, check, VISA, MasterCard, COD or Company PO. Rush orders accepted ($15.00 S&H; USA/Canada only). Rush orders received by noon will be delivered the next business day (to most locations).

Order Desk: 1-800-267-0668

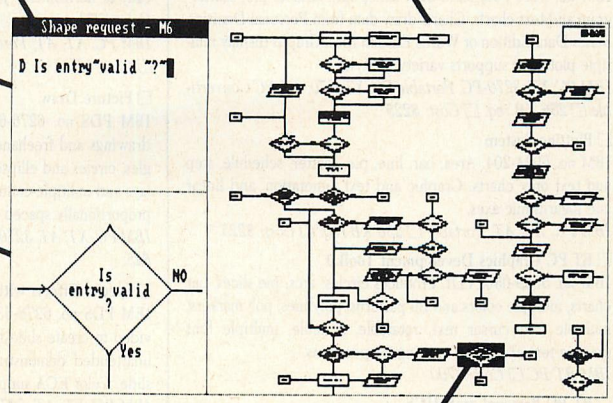
The sample screen display shown below is typical of what you see while editing a chart. Other screen displays are provided for entering titles, changing options, getting "help" and so on.

STATUS BAR (not to be confused with a wet bar) tells you what Interactive EasyFlow is doing at all times.

CHART WINDOW gives an overview of your chart; this example shows the "normal" view. "Close-up" view shows a smaller part of the chart in more detail. "Wide-angle" view shows a larger part of the chart at reduced size.

TEXT/MESSAGE WINDOW used to enter user text and to display messages from Interactive EasyFlow.

CURRENT SHAPE WINDOW - shows the content of the current flowchart shape (the one under the SHAPE CURSOR) in complete detail.



SHAPE CURSOR shows where you are in the chart. Cursor keys move it around; chart window scrolls if you run off the edge of the window.

HavenTree Software Limited
P.O. Box 1093-B
Thousand Island Park, NY 13692
Information: (613) 544-6035 ext 40

CIRCLE NO. 113 ON READERS SERVICE CARD

☐ **Drawing Assistant**
IBM no. 6024-089. TopView-compatible color paint program for creating drawings and presentations. Entry via keyboard, mouse or joystick. IBM PC network compatible. Accepts files created with IBM PCjr ColorPaint. Permits picture magnification/retouching, horizontal/vertical flipping and color inversion.
IBM PC, XT, AT, Portable PC, PCjr ☐ 256 KB req. ☐ Cost: $169

☐ **Electric Poet**
IBM no. 6024-172. Creates electronic presentations with color, animation, music and rhythm.
IBM PC, XT, AT, Portable PC, PCjr ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $75

☐ **Graphics Development Tool Kit**
Reviewed Sep 1985 p. 42.
IBM no. 6024-196. Circles, arcs, pie slices, bar charts, polylines and polymarkers. Multiple colors and fill patterns. Graphic and cursor text are rotatable and scalable. Multiple fonts.
IBM PC, XT, AT, Portable PC, PCjr ☐ Cost: $495

☐ **Graphing Assistant**
IBM no. 6024-147. Creates pie and bar charts from data in IBM Filing Assistant programs. Graphs can be part of document generated by IBM Writing Assistant.
IBM PC, XT, Portable PC, PCjr ☐ 128 KB req. ☐ Cost: $165

☐ **Metafile Graphical File System**
IBM no. 6024-205. Business graphics.
IBM PC, XT, AT, Portable PC ☐ 256 KB req. ☐ Cost: $175

☐ **PC Storyboard**
IBM no. 6316-998. Presentation-quality graphics system. Consists of Picture Taker, Picture Maker, Story Editor and Story Teller.
IBM PC, XT, AT, PCjr, Portable PC, XT/370, 3270-PC ☐ Cost: $275

☐ **PCjr Color Paint**
IBM no. 6024-299. Color drawing system designed to accept input entered by a user-supplied mouse.
IBM PCjr ☐ Cost: $99

☐ **Personal Computer Image Processing System**
IBM no. 6466-996. Loads and saves images. Extracts pixels from one image to another. Performs spatial filtering, image arithmetic, parallel-piped boxcar multi-spectral classification and keystroke recording and playback. Annotates images or histogram displays.
IBM PC, XT, AT, Portable PC, XT/370 ☐ 384 KB req. ☐ Cost: $310

☐ **Personal Computer Slide Write**
IBM no. 6317-034. Text slides on paper or overhead transparency film. Expands or shrinks text automatically. Hi-res characters. Retrieves Display Write 2/3 print files or Display Write 3 ASCII files. Batch capability.
IBM PC, XT, 3270-PC, XT/370, AT, Portable PC ☐ 128 KB req. ☐ Cost: $225

☐ **Personal Decision Series - Graphs Edition**
IBM no. 6410-938; 6403-821. Line, bar, surface, pie, scattergram and text charts. Charts draw data from Personal Decision Series Data Edition or Words Edition files. Graphs display multiple plots and supports variety of styles.
IBM PC, XT, 3270-PC, Portable PC, XT/370, AT, PC Convertible ☐ 256 KB req. ☐ Cost: $225

☐ **Plotting System**
IBM no. 6024-204. Area, bar, line, pie, scatter, schedule, step and text only charts. Graphic and text annotation, and linear and logarithmic axes.
IBM PC, XT, AT, Portable ☐ 256 KB req. ☐ Cost: $225

☐ **RT PC Graphics Development Toolkit**
IBM no. 5669-050. VDI. Produces circles, arcs, pie slices, bar charts, multiple colors and fill patterns, polylines, polymarkers, multiple font cursor text, rotatable, scalable, multiple font graphic text and raster and input operations.
IBM RT PC ☐ Cost: $700

☐ **RT PC Personal graPHIGS**
IBM no. 5669-167. Graphics programming interface based upon proposed ANSI standard for PHIGS (Programmer's Hierarchical Interactive Graphics System). Sync and async I/O. Geometric articulation. Provides ability to select and edit parts of graphic structures.
IBM RT PC ☐ Cost: $1,000

☐ **RT PC Plotting System**
IBM no. 5669-063. Creates graphics, area, bar, line, pie, scatter, schedule, step and text-only charts. Allows attribute changing including line style for line and step charts, fill pattern for area, pie and bar charts, color, text height and font, logarithmic axes, axis range and tick spacing.
IBM RT PC ☐ Cost: $600

☐ **3270-PC Color Graphics Charting**
IBM no. 4421-519. Graphics end user interface with icons, picture file maintenance, chart delimiters and annotation, computational facilities and file conversion from DIF, SYLK and GDDM formats. Allows up to 4 charts per picture.
IBM 3270-PC/G, 3270-PC/GX, 3270-AT/G, 3270-AT/GX ☐ 384 KB req. ☐ Cost: $395

IBM PERSONALLY DEVELOPED SOFTWARE

☐ **Creativity Package**
IBM PDS no. 6276-545. Consists of Kaleidoscope, PC Palette, Personal Computer Picture Graphics and Select-A-Font.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $63

☐ **Lines Plus**
IBM PDS no. 6276-636. Text graphic editor. Selects intersecting or overlaying lines. Creates horizontal or vertical labels for drawings. Creates drawings composed of lines, boxes and arrows. Monochrome and color EGA support.
IBM PC, XT, AT, 3270-PC, PCjr, Portable PC ☐ 128 KB req. ☐ Cost: $20

☐ **Multimedia Presentation Aid**
IBM PDS no. 6276-611. Creates presentations in standard outline form or in free form to display tables. Supports multiple colors. Produces transparencies. Monochrome and color EGA support.
IBM PC, XT, AT, PCjr, Portable PC, 3270-PC ☐ 128 KB req. ☐ Cost: $25

☐ **PC Palette**
IBM PDS no. 6276-537. Pie/bar charts, line graphs and scatter plots. Four line widths and 12 drawing styles. Rotates copies and scales drawings. Joystick, mouse, graphics tablet or touch tablet for input. Color EGA support.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $40

☐ **PC Palette Utility**
IBM PDS no. 6276-640. Plots PC Palette stroke files to create graphs, charts or pictures. Plots output on IBM 7371, 7372 or 7374 color plotters. Color EGA support.
IBM PC, XT, AT, 3270-PC, Portable PC ☐ 128 KB req. ☐ Cost: $20

☐ **Personal Computer Picture Graphics**
IBM PDS no. 6276-508. Images can be mixed to create new graphics. Increases/decreases art network size, changes colors, flips images, mixes type styles, moves objects and prints vertically or horizontally. Joystick, light pen or keyboard for input. Color EGA support.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $30

☐ **Picture Draw**
IBM PDS no. 6276-628. Creates pictures, diagrams, scaled drawings and freehand artwork. Draws lines, squares, rectangles, circles and ellipses. Sizes, rotates, mirrors, outlines, overlays and multiple-centers images. Zooms or fills images. Uses 9 proportionally spaced lettering fonts. Color EGA support.
IBM PC, XT, AT, 3270-PC, Portable PC ☐ 256 KB req. ☐ Cost: $25

☐ **Special Effects with Slides**
IBM PDS no. 6276-631. Combines, text, graphics, audio and video to create slideshow presentation. Prepares attended or unattended demonstrations. Sets time delays between each slide. Color EGA support.
IBM PC, XT, AT, 3270-PC, PCjr, Portable PC ☐ 256 KB req. ☐ Cost: $25

IMAGIMEDIA TECHNOLOGIES, INC.

☐ **MicroCAD**
2D and 3D system. Plots 38,000 points. Constructs, edits and scales objects. Displays VisiCalc files as hi-res graphs.
IBM PC, XT ☐ Cost: $150-$500

IMAGING TECHNOLOGY, INC.

☐ **Image-Pro 100, Image-Pro**
Interactive image processing and graphics. Library of image processing routines. Includes report generator to all frame composition by merging image data with graphic data from image analysis functions. Interfaces to most dot matrix printers. Color real-time processing capabilities.
IBM AT ☐ 640 KB req. ☐ Cost: $995-$1,495

☐ **Itex 100**
Standalone library of board-level and image processing routines for use with Series 100 single-board image processor. Initialization and register access, look-up table manipulation, image acquire and clear, image save and restore, pixel read and write, line and area operations, image geometry and processing, and graphics.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 20 since 1986 ☐ Cost: $995

☐ **Itex/PC, Itex 151**
Standalone library of board-level and image processing routines. Initialization and register access, look-up table manipulation, image acquire and clear, image save and restore, pixel read and write, line and area operations, image geometry and graphics. Requires PCVisionplus Frame Grabber or Series 151 image processing subsystem.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $595

IMSI

☐ **Dr. Halo II**
Paint package and picture editor that displays graphics in hi-res monochrome and color. Supports laser printers and merges text from word processing files with graphics created.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 13,000 since 1985 ☐ Cost: $140

☐ **Galleria**
Picture library collection to be used with Dr. Halo II, PC Paintbrush, PC Paint or Polaroid Palette. Consists of 3 libraries: Business Library, Home Library and Artists Libraries. Libraries available separately.
IBM PC, XT, AT ☐ Copies sold: 400 since 1986 ☐ Cost: $60

☐ **TurboHALO**
Develop graphics applications with multi-color, hi-res and broad compatibility with graphics hardware. Includes 170 HALO primitives. Supports 10 graphics boards, 13 input devices and 23 printers and plotters.
IBM PC, XT, AT ☐ Introduced: 1986 ☐ Cost: $99

☐ **4-Point Graphics**
Outputs to over 30 printers and plotters. Enhances images from other software with full colors, logos or designs. Saves on-screen pictures from programs.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 15,000 since 1983 ☐ Cost: $195

INDIGO SOFTWARE, LTD.

☐ **iPrint**
Produces documents and forms. Includes zoom, area move/copy and user-set grid increments graphics facilities. Creates organization, block and bar charts/diagrams. Prints output as it appears on screen. User can insert graphics into documents. Interfaces Lotus 1-2-3.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $259

INFOGRAPHICS, INC.

☐ **InfoGraphics Choice**
Supports graphics design, statistical scaling and color harmony. Includes file transfer programs and drivers for printers and plotters.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $395

INNCON SOFTWARE

☐ **Business Graphics**
Creates color bar charts, line graphs and pie charts.
IBM PC, XT ☐ Cost: $20

☐ **Sign Maker**
Creates signs or messages in any size. Includes an optional banner capability.
IBM PC, XT ☐ Cost: $20

INNER LOOP SOFTWARE

☐ **Boxes & Arrows**
Creates block diagrams for use in pictorially representing relationships among components of complex systems. Associates what-if calculations with every object. Uses monochrome and graphics adapters and can support an optional mouse.
IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $145

INNOVATIVE SOFTWARE, INC.

☐ **Fast Graphs**
Bar/pie charts and line graphs. Automatic title placement, axis scaling, med- and hi-res graphics, ability to superimpose graphics and 16 background colors. Requires 2 double-sided 320 KB drives or hard disk 128 RAM interface card.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 100,000 since 1983 ☐ Cost: $140

INTERACTIVE IMAGES, INC.

☐ **Easel Automated Business Graphics**
Creates PC-based, color graphic, icon-oriented human interfaces to existing mainframe applications and data bases. Integrates systems.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $6,500

INTERCHART SOFTWARE, INC.

☐ **ChartBuster/PC**
Business graphics system which produces line, bar, pie and word charts in graphic design.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $750 per copy

INTERNATIONAL FINANCIAL DATA SYSTEMS, INC.

☐ **Color Graphics Presentation System - Plotter Version**
Handles reports produced by IFDS' Professional Series/1 through Series/4. Charts created include pie, bar and line. Permits self-calibrating graphs. Hard-copy output to plotter only.
IBM PC, XT ☐ 256 KB req. ☐ Cost: $1,000

☐ **Graphics Presentation System-Printer Version**
Handles reports produced by IFDS' Professional Series/1 through Series/4. Creates bar charts. Integrates with client data base. Permits self-calibrating graphs. Hard-copy output to printer only.
IBM PC, XT ☐ 256 KB req. ☐ Cost: $750

INTERNATIONAL SOFTWARE ALLIANCE

☐ **Caligraph With Image**
Pie charts, line, bar graphs and histograms. Defines X and Y axis labels or pie segments and scales data.
IBM PC ☐ 64 KB req. ☐ Cost: $75

IRIS SOFTWARE, INC.

☐ **Iris-100**
Presentation graphics. Generates bar charts, histograms, line graphs, pie charts and time series graphs. Includes multiple windowing and floating text. Supports plotters and printers.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,200 since 1984 ☐ Cost: $150

☐ **Iris-400**
Menu-driven graphics. Generates bar charts, histograms, line graphs, pie charts, time series graphs, stock market charts and scatter plots. Integrates graphics files into slide-show presentations, selectable range and circle function. Supports plotters and printers.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $395

ISSCO (INTEGRATED SOFTWARE SYSTEMS CORP.)

☐ **Disspla/PC**
Standalone graphics system or option to ISSCO's Disspla. Integrates mainframe graphics applications throughout PC environment. Allows Disspla mainframe applications to be offloaded to PC.
IBM PC

K SOFTWARE HOUSE, INC.

☐ **Drawing Tablet**
Hi-res drawing program. Supports one or multiple screen drawings. Block operations with replacing, inlaying and over-laying. Uses dot matrix printers and pen plotters. Paints with 100 different brush sizes. Library functions are available.
IBM PC ☐ 192 KB req. ☐ Introduced: 1985 ☐ Cost: $50

KERN INTERNATIONAL

☐ **Designer-3D**
Creates drawings on screen, rotates in 3D, enlarges, views in perspective, stores on disk, recalls and updates.
IBM PC ☐ 64 KB req. ☐ Cost: $120

☐ **Scientific/Engineering Data Plotting**
Data management and plotting programs. Plots several files simultaneously. Connects data points by solid, dotted or dashed lines. Produces linear, semi-log, log-log or polar plots. Includes axis labeling, data editing and optional grids.
IBM PC ☐ 64 KB req. ☐ Cost: $85

KOALA TECHNOLOGIES CORP.

(division of PTI Industries)

☐ **Executive Presentation Kit**
Presentation graphics.
IBM PC, XT ☐ 192 KB req. ☐ Cost: $300

☐ **PCDesign**
Presentation quality bar and pie charts using Koala Pad touch tablet.
IBM PC

LARK SOFTWARE

☐ **DataPlotter**
Produces line graphs, scatterplots, bar graphs and pie charts on dot matrix printers. Allows different symbols, uneven spacing on X axis, multiple functions, discontinous functions, numerous labels, and lines and unconnected points on same page.
IBM PC ☐ 48 KB req.

LCS/TELEGRAPHICS

☐ **TelePaint**
Produces 35mm slides and overhead transparencies. Combines color graphics and text on 8 ½ by 11 inch pages. Captures and enhances graphs and charts from Lotus 1-2-3. TelePic Image Libraries containing collections of symbols, graphic aids and illustrations are available.
IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $149

LECHT SCIENCES, INC.

☐ **Animation Studio**
Simulates camera and multi-plane animation stand. Paint module lays out graphics and text. Movie module creates, edits and reviews film dynamically in real time. Generates in-between frames. Utility for image capture, scaling and rotation.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 2 since 1985 ☐ Cost: $20,000

☐ **TAPS (The Animated Presentation System)**
Contains vehicle for interactive animated graphic presentations. Captures and enhances images and makes films. Displays resulting film interactively. Pause, rewind, step forward and backward single frame. Software controlled pointer.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 2 since 1985 ☐ Cost: $1,000

LIMICON, INC.

☐ **Animite**
Animation creation using in-between, stick-figure, sprites, cel, multi-plane, color-mapping, sequential display, blinking, and other techniques. Works within the Softbus environment so the user can add animation techniques, or modify the user interface.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $1,000

☐ **Chartright**
Creates color graphs and charts from numeric data entered directly or from spreadsheet. Stores 200-300 finished charts per ordinary diskette. Sends finished charts over 1200 baud phone lines.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $100

☐ **ProDraw**
Color drawing/animation software. Integrates with other Softbus operating environment software.
IBM PC, XT, AT, Portable PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $100

THE LISP CO.

☐ **TLC-Logo**
Multi-turtle graphics.
IBM PC ☐ Cost: $100

LOTUS DEVELOPMENT CORP.

☐ **Freelance**
Creates charts and drawings. Edits charts from Graphwriter, Lotus 1-2-3 and Symphony. Freeform capability and symbol library. Accepts Lotus PIC files and ASCII files and outputs to slides, transparency or paper.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $395

☐ **Graphwriter**
Business/presentation for paper, transparencies and slide/production. Pie, bar, line, Gantt, organization, range, bubble and special purpose charts. Built-in artist places, sizes and positions data as required by output medium.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 25,000 since 1983 ☐ Cost: $395-$595

MANAGEMENT GRAPHICS, INC.

☐ **PC-Slide**
Generates hi-res 35mm slides. Pie, bar and line charts. Text charts in 255 colors, 8 font styles and 95 sizes. Includes ShowMaker interface to VideoShow 150 and 160 video display unit.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $995

MARTIN MARIETTA DATA SYSTEMS

(operating company of Martin Marietta Corp.)

☐ **ShowIT**
Business graphics program with 3D pie charts, pyramid charts and slide shows. Displays actual data values with graphics. Interfaces to other PC programs in addition to other programs in the ITSeries. Printer, plotter and 16 colors support.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 920 since 1984 ☐ Cost: $250

MATHEMATICAL APPLICATIONS GROUP, INC.

☐ **Chart**
Creates data representations in the form of charts, graphs, words and symbols. Combines with SlideLink and Service Center Network for slides and overhead transparencies. Charts are modifiable with graphic and textual annotation. Accepts data entry in different formats. Mathematical functions available.
IBM PC ☐ 512 KB req.

☐ **PC Presents**
Transforms Lotus 1-2-3 graphs into color slides, prints and overhead transparencies. Creates design-compatible title and bullet charts.
IBM PC

☐ Plottalk
Creates presentation graphics. Chart types include horizontal and vertical bar, pie, line, step, scatter and text. Sends data to user's output devices or MAGI Service Center Network via modem. Integrates with SlideLink and Service Center Network for slides and overhead transparencies.
IBM PC ☐ 256 KB req.

☐ Sound Presentations
Combines a graphics editor with a library of pre-defined, interactive graphics templates. Creates special effects to highlight graphics. Draws in data from external data bases. Output devices include pen plotter and printers. Integrates with SlideLink for slide generation.
IBM PC ☐ 256 KB req.

MEDIA CYBERNETICS, INC.

☐ Dr. HALO II
Provides icons, filled/unfilled circles, ellipses, pencil, paint can and scissors. Draws, paints, moves, cuts, pastes and rubber stamps images. Choice of colors, patterns, symbols, line widths and airbrush densities. Includes virtual page, undo function, scaling and curve fitting.
IBM PC, XT, AT, 3270-PC, PCjr ☐ 256 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $140

☐ Image-Pro, Image-Pro 100
Analyzes, stores and retrieves for future reference information from documents, photographs, x-rays, satellites. Mouse driven image processing with icon-based interactive image editor, processing routines and HALO graphics subroutine library. Enhanced version requires Series 100 single-board image processing module.
IBM AT ☐ 512 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $1,000-$1,495

☐ NIMBUS
Bar charts, pie charts, line graphs, scatter plots and high/low graphs from numerical data.
IBM PC ☐ 512 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $195

METASOFT CORP.

☐ Benchmark Graphics Package
Pie/bar charts, X-Y plot and graphs can be mixed with text created on BENCHMARK word processor. Images can be saved and edited. Supports zooming, filling, free-hand draw and multiple line choice. Interfaces with BENCHMARK 3-D Spreadsheet and other DIF generated files. Includes Font Builder.
IBM PC, XT, AT, 3270-PC ☐ 384 KB req. ☐ Copies sold: 9,000 since 1983 ☐ Cost: $199

METRO SOFTWARE, INC.

☐ QPlotter
Provides organizational charts, forms, bar charts and floor plans. Designs within .001-inch.
IBM PC ☐ 128 KB req. ☐ Copies sold: 5,000 since 1982 ☐ Cost: $100

MICHTRON, INC.

☐ GRAFITI
Drawing aid.
IBM PC ☐ 256 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $40

☐ Master Graph III
Graph generator. Creates line graphs, pie charts and 3D bar graphs. Displays chart types simultaneously for comparison.
IBM PC ☐ 256 KB req. ☐ Copies sold: 700 since 1984 ☐ Cost: $90

MICRO DATA BASE SYSTEMS, INC.

☐ K-Graph
Color business graphics utility for KnowledgeMan/2. Clustered, stacked and 3D bar graphs, scatter diagrams, line graphs, area plots, pie charts and hi-lo-close graphs. Split-screen graphing.
IBM PC ☐ 320 KB req. ☐ Introduced: 1984 ☐ Cost: $225-$850

MICRO FOCUS, INC.

☐ CO-Graphics
Generates graphics from COBOL programs. Writes applications that produce graphs and charts.
IBM PC, XT, AT, Portable PC, 3270-PC ☐ 256 KB req. ☐ Introduced: 1984

MICROGRAFX, INC.

☐ In a Vision
Creates technical drawings, blueprints, illustrations, diagrams and schematics. Pans user-defined drawing space of up to 68 by 68. Creates multi-layered drawings. Scales, rotates and dimensions symbols. Microsoft Mouse and Microsoft Windows are optional.
IBM PC, XT, AT ☐ Cost: $495; $195 Microsoft Mouse option; $100 Microsoft Windows option

☐ PC-Draw
Template-based drawing package for creating, modifying, printing and plotting documents. Templates include flowcharting, networking, data flow diagramming, electrical design, space planning and alternate text.
IBM PC, XT, PCjr, AT ☐ 256 KB req. ☐ Introduced: 1982 ☐ Cost: $395

MICROLITE CORP.

☐ PBG200
Produces pie, vertical bar, stacked, clustered 3D bar, scatter and line charts. Reads SYLK/ISIS files and tab/comma delimited ASCII text. Supports monochrome and color terminals, plotters and dot matrix printers.
IBM PC ☐ Cost: $750

☐ PBG300
Produces pie, vertical bar, stacked, clustered, 3D, scatter and line charts. Reads SYLK files, ISIS files and tab/comma delimited ASCII text. Performs templating, word chart printing, device handling and chart-formatting. Supports monochrome/color terminals, plotters and dot matrix printers.
IBM PC ☐ Cost: $995

MICROPLOT SYSTEMS

☐ PlotScale
Scales and translates picture files saved using PC-PLOT. Saves changed file in standard Tektronix format.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,500 since 1985 ☐ Cost: $40

☐ SketchPad
Saves traced or sketched pictures in disk file in standard Tektronix 4010 format. Displays on screen data being saved. Monochrome or color.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,500 since 1985 ☐ Cost: $50

MICROPRO INTERNATIONAL CORP.

☐ ChartStar
Produces charts. Includes text with nine choices of fonts, linear/logarithmic line, and charts. Charts/graphs include pie, bar, organizational, scatter, curve-fitting and Gantt. Accesses spreadsheet data.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1984 ☐ Cost: $295

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ Microsoft Chart
Enables graphics data to be entered, edited and formatted directly in windows. Data can be entered from any Macintosh program. Includes pictorial gallery of 40 charts and graphs.
IBM PC ☐ Cost: $295

MICROVISION SOFTWARE, LTD.

☐ Curve II
Hard copy graphics for business, science and engineering. Uses HP, HI and Pixie plotters. Plots equations, pie charts, bar graphs and text. Subroutines are separately documented.
IBM PC ☐ 64 KB req. ☐ Copies sold: 3,000 since 1969

MIRACLE COMPUTING

☐ Eazygraf
Uses color display to prepare graphic displays using med- or hi-res. Prints on Epson MX-80 with GRAFTRAX. Saves graphics on diskettes.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 15 since 1982 ☐ Cost: $35

☐ Grafcalc
Pie charts, scatter, dot, line, bar and map graphs, histograms and graph overlays. Provides an interface to VisiCalc.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 10 since 1982 ☐ Cost: $475

☐ Graphit
Produces single graphs of data, including pie charts, dot graphs, line graphs, bar graphs and histograms. Prints results on an Epson MX-80.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 20 since 1982 ☐ Cost: $80

☐ Joydraw
Produces diagrams and illustrations. Places text on the screen at different places using placement of cursor with joystick. Prints on an Epson MX-80 printer.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 10 since 1982 ☐ Cost: $40

MOUSE SYSTEMS CORP.

☐ PC Paint Plus
IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Copies sold: 75,000 since 1985 ☐ Cost: $99-$199

NCR CORP.

☐ Graph
Circles, rectangles, lines, text and other graphics pictures.
IBM PC ☐ 128 KB req.

NETRON, INC.

☐ Movie System
Creates and projects movies. Interactive tutorial facility writes customized training movies. Spy log facility copies screens and allows remote monitoring of terminals. Projects in forward and reverse. From five frames per second to several minutes per frame.
IBM PC

NEW ENGLAND SOFTWARE, INC.

☐ Graph-in-the-Box
Memory-resident graph generator. Captures data and text directly from application running. Allows changes to chart type, colors, fill patterns and attributes from icon menu. Supports hi-res graphics boards, plotters, black and white and color dot matrix printers and laser printers.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Cost: $98

NICOLET COMPUTER GRAPHICS DIVISION

☐ GKS (Graphics Kernel System)
Creates specific plotting language code that drives Zeta plotters. Must be used in conjunction with Graphic Software Systems GSS Drivers.
IBM PC ☐ 512 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $250

NORFORK SYSTEMS

☐ PC-ORG Chart
Organization charts. New hires, terminations, and company reorganizations.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 150 since 1983 ☐ Cost: $95

OEDWARE

☐ PC-Key-Draw
Graphics editor for mechanical design, architectural design, 35mm slide creation, graphical interface design, demo slide shows with full animation, flowcharting, graphic arts and desktop publishing. Functions include layers, virtual pages, fill patterns and area and center calculation. Keyboard or mouse input.
IBM PC ☐ Cost: $100

OFFICE SOLUTIONS, INC.

☐ OfficeGraphics
Provides integration between text created on OfficeWriter and graphics created on Chart-Master, Lotus 1-2-3 and Graphwriter. User may specify image placement, check image size and modify images. Clipping, expansion, reduction and rotation. Color printed or variegated shades of grey.
IBM PC, XT, AT ☐ 75 KB req. ☐ Copies sold: 1,000 since 1986 ☐ Cost: $145

OMICRON

☐ Plotrax
Inputs/plots data with line, bar or pie format. Eight regression formulas for analysis. Supports log/semi log plots, dual axis and eight files per line plot.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1981 ☐ Cost: $340

PAB SOFTWARE, INC.

☐ HIRES Master
Enhances normal BASIC by providing hi-res plot command. Plots up to 6 functions on screen or printer.
IBM PC ☐ 96 KB req. ☐ Copies sold: 20 since 1984 ☐ Cost: $35

PACIFIC BASIN GRAPHICS

☐ 100 or 200 Business Graphics
Pie/bar charts, line drawings and scatter plots. Supports RGB monitor, pen plotter, matrix printers and graphics console.
IBM PC ☐ 64 KB req. ☐ Copies sold: 250 since 1982 ☐ Cost: $295 and up

PAL SOFTWARE

☐ ARTPAK Drawing, Animation and Music
Draws circles, boxes and lines. Turns and flips images. Paints, duplicates, erases, expands and reduces to different size increments. Creates shading and pattern images. Writes text in different sizes. Mixes text with graphics.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Cost: $99

☐ ARTPAK Presentation System
Generates pie, line and bar charts. Supports 37 different text fonts. Provides 8 ½ by 11 inch hi-res printout.
IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $350

☐ Picturepak II
Set of 50 pictures used in preparation of business reports and presentations.
IBM PC, XT, AT, PCjr ☐ Cost: $50

☐ Plotter Support Program
Supports four-color plotters such as CACOMP model 84, 49, 95, IBM XY 749, Houston Instruments' DMP 40, DMP 29, PC 595, and PC 695 and InterSweet P model 100. Supports 16-color printers such as HP 7475 and HP 7470.
IBM PC, XT, AT, PCjr ☐ Cost: $50-$100

PAPERBACK SOFTWARE INTERNATIONAL

☐ Draw-It
Copies, moves, rotates, reduces or enlarges created pictures. Line, bar and pie charts.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $30

PATTON & PATTON

☐ Flow Charting II
Constructs and prints flowcharts and personnel charts. Provides two text fonts, standard flowcharting symbols plus additional sizes and three line styles.
IBM PC, XT ☐ 192 KB req. ☐ Copies sold: 10,000 since 1983 ☐ Cost: $138-$197

P. C. STAT, INC.

☐ Advanced Graphics Package
Scatter, point, line, pie, stacked area, high-low-close, multiple/stacked/horizontal bar, *x-y* scatter, *x-y* line and *x-y* plots. Dynamic display and data transfer facilities.
IBM PC, XT, PCjr ☐ 128 KB req. ☐ Cost: $250

PCSOFTWARE OF SAN DIEGO

☐ Executive Picture Show
Creates free-form graphics. Provides 12 font styles and 25 paints and patterns. Mouse option. Creates bar, 3D bar, line, horizontal, surface and pie charts. Magnifies and scales. Grabs text and graphics from other software. Additional drawing libraries available.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 4,000 since 1982 ☐ Cost: $245

☐ PCcrayon
Creates free-form graphics on screen. Hard copy, slides and photographs. Includes 8 fonts styles, 10 paints and 10 patterns. Scaling. Animation. Mouse option. Additional drawings and pictures libraries available.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10,000 since 1982 ☐ Cost: $60

PENCEPT, INC.

☐ Pendraw
Color drawing graphics.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $195

PERSONAL SOFTWARE CO.

☐ Charts and Text
Builds organization charts, flow charts or any charts consisting of boxes and text. User can build boxes and text using ASCII tables. After building charts, they can be put together into a .BAT file to produce chart display.
IBM PC ☐ 128 KB req. ☐ Copies sold: 20 since 1984 ☐ Cost: $25

PETROCOMP SYSTEMS, INC.

☐ PEGS (Petrocomp's Enhanced Graphics System)
Creates presentation quality graphs of engineering and financial data. Creates Cartesian, date and true logarithmic axes. Plots data against any of 4 independent Y-axes. Works with Petrocomp's PEEK, PROFOR, PASS, Payout or other spreadsheet programs.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $1,295

PICK SYSTEMS

☐ Accu/Plot II
Transforms number stacks into charts and graphs. Formats data in simple bar, line or pie charts. Scaling, labeling, line and bar pattern/color selection. Interfaces with Pick Systems' CompuSheet+.
IBM PC, XT, AT ☐ Cost: $295

PICTUREWARE, INC.

☐ PicturePower
Incorporates photographic-quality pictures into data bases. Contains DBMS, picture capture facility, picture editor, forms generator and data communications system. Adds picture to existing data base file without recreating file. Compatible with dBASE III.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 25 since 1986 ☐ Cost: $795

PLOTWORKS, INC.

☐ Plot 88
Industry standard plotting. FORTRAN callable. Provides subroutine library for constructing grids, contour maps and 3D mesh drawings. Compatible with HP plotters/laser jet printers, Houston Instrument plotters and dot matrix printers.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $250

POLARWARE/PENGUIN SOFTWARE, INC.

☐ Graphics Magician Picture Painter
Allows user to manipulate lines, color-fill, paintbrushes, text and over 100 colors. Stores pictures. Transfers graphic files between computers.
IBM PC ☐ 48 KB req. ☐ Copies sold: 4,888 since 1984 ☐ Cost: $50

PRACTICAL PERIPHERALS, INC.

☐ CPS (The Computerized Presentation System)
Allows free form drawing for creating presentation graphics and slide shows with mouse. Composes color figures with boxes, lines, ellipses and arrows. Eleven text fonts in 6 sizes are built-in. Designs fonts. Object-oriented editing includes move, copy, resize, reshape, recolor, mirror and rotate.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $195

PRACTICORP INTERNATIONAL, INC.

☐ PractiGraph
Produces horizontal/vertical/stacked/clustered bar graphs, 7-item/35-change point line graphs, pie charts with exploded portion and percentage display options and text charts. Includes slide show feature. Plots/prints 8 colors.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $100

PRENTICE HALL PRESS

(division of Simon & Schuster)

☐ Graphics Generator
Accesses SuperCalc and VisiCalc. Color graphics displays.
IBM PC ☐ 64 KB req. ☐ Cost: $95

PROSOFT

☐ Fontasy
Twenty-eight on-screen fonts and 60 pieces of clip art. Screen is image of paper. Additional fonts and clip art available separately. Magnifies proportional spacing and justification standard. Reads ASCII text files from disk and accepts text from keyboard.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 10,000 since 1985 ☐ Cost: $70

PYXEL APPLICATIONS

☐ Batchprint
Converts PYXEL Visuals screens to proportionately-spaced, hi-res hard copy. Prints up to 42 screens without intervention. Provides 10 font styles and 3 line thicknesses.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 8,000 since 1983 ☐ Cost: $75

☐ Visuals
Produces overhead transparencies, slide-shows and signs. Hi-res color text ¼ to 1 inch. Lines, bullets and boxes. Sans serif and serif fonts. Full 8 ½ by 11 inch page with 192KB or one-screen page with 128KB. Automatic and prompted presentations. Prints horizontally or vertically.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 15,000 since 1983 ☐ Cost: $98

QUADRAM

(subsidiary of Intelligent Systems Corp.)

☐ Imagebase
Adds pictures to DBMS such as dBASE, R:Base and IBM Filing Assistant. Provides image resolution of 640 x 200 or 320 x 200. Produces 256 colors. Allows pictures to be captured before, during and after data base file is established.
IBM PC, XT, AT ☐ Cost: $495

☐ Imageware Toolkit
Creates customizes data bases integrated with photographic images. Accommodates 18 search parameters. Device independent.
IBM PC, XT, AT ☐ Cost: $995

☐ Imageware 100
Image manipulator and graphics editor with video digitizer support. Manipulates hi-res images up to 640 x 512 x 256 colors. Includes image grabber, slide show routine, multi-font annotation, texturing and color fill. Integrates product/people photos.
IBM PC, XT, AT ☐ Cost: $295

QUADRATRON SYSTEMS, INC.

☐ Q-Chart
Chart generation for comparison schedules or critical path analysis. Works with QSI's Q-One word processing system.
IBM PC ☐ 256 KB req. ☐ Cost: $325-$395

☐ Q-Graph
Adds graphing and drawing primitives to charting capabilities in Q-Chart. Generates graphs of data from Q-Office. Handles pie/bar charts, line graphs, titles, labels and legends. Curve fitting. Overlays charts. Scales data. Draws lines/boxes. Adds symbols/color. Fills areas/patterns.
IBM PC ☐ 256 KB req.

QUAM DEVELOPMENT GROUP, LTD.

☐ Flex-Draw
Produces maps, logos, custom charts, flow charts, Gantt charts, diagrams and illustrations. Data editing. Creates a continuous line by indicating points of shape and connecting these points. Works with Kurta Series 1 Graphics Tablet to create polygons and lines in stream mode.
IBM PC ☐ 256 KB req.

☐ Orgchart
Creates organizational charts and other shapes including boxes, diamonds, circles, lines, arrows and polygons. Provides basic drawing capability. Compatible with General Parametric's VideoShow for presentations.
IBM PC ☐ 256 KB req. ☐ Cost: $495

RAND MCNALLY & CO.

Information Resource Management Dept.

☐ P.B.G. (Presentation and Business Graphics)
Creates standard business graphs, specialized population pyramids and presentation text screens. Displays pie charts in 2 or 3 dimensions, exploded, or with single slice extracted for emphasis.
IBM PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $100

RIX SOFTWORKS, INC.

☐ EGA Paint
Graphics drawing program. Supports hi-res 640 X 350 pixels and 16 colors. Brush controller, automatic shapes, fill and pour, move and copy, undo facility, pop-up grid, 200m processor, enlarge/reduce, text processor, screen save/receive, image library and print screen handlers.
IBM PC

RUNE ENTERPRISES

☐ Talkshow
Provides animation and slide show capabilities.
IBM PC ☐ 128 KB req. ☐ Cost: $149

SANYO BUSINESS SYSTEMS CORP.

(Computer Division)

☐ Sanygraph
Transforms numerical reports from spreadsheet, data base or application programs to line, bar or pie charts in full color. User-controlled titles and labels. Automatic/manual scaling of axes. Allows as many graphs per page as required. Stores/recalls graphs. Multiple line types.
IBM PC ☐ 256 KB req.

SAS INSTITUTE, INC. (NC)

☐ SAS/Graph Software
Color graphics for business and research. Produces charts, plots and maps in various colors and patterns. Provides several font styles. Projects statistical data to chloropleth, surface, prism and block maps. Includes maps coordinates for U.S. states/counties and Canadian provinces. Requires Base SAS Software.
IBM 370, 370XX, 43XX/OS, CMS, DOS/VSE, TSO ☐ 512-2,000 KB req. ☐ Copies sold: 4,878 since 1980

I. P. SHARP ASSOCIATES, LTD.

☐ Plotcomm
Accesses IPSA public data bases. Transfers data between system and IBM PC files. Draws pictures and creates graphics.
IBM PC ☐ 192 KB req. ☐ Copies sold: 150 since 1984 ☐ Cost: $80

SOFPAK, INC.

Kanatek Micro

☐ SOFPAK GKS
Features include stroke text, high speed polygon fill, varying line styles, 6 types of polymarkers, fast rectangle fill, and error handling. Optional data transfer capability with AutoCAD. Supports several hi-res PC/AT graphics boards.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 10 since 1985 ☐ Cost: $300

SOFTEL, INC.

☐ Videogram
Provides color freehand painting and drawing with business graphics presentation features. Supports hi-res IBM enhanced graphics adapter and tablet input. Produces 35mm slides.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 2,000 since 1982 ☐ Cost: $75

SOFTEXT PUBLISHING CORP.

☐ Basic Business Graphics
Bar charts, pie charts, line graphs, scatter plots, and combination of graphic methods. Data sets can be entered and graphs displayed on CRT, printers and plotters.
IBM PC ☐ 128 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $95

SOFTKEY SOFTWARE PRODUCTS, INC.

☐ KeyChart
Presentation graphics. Previews charts in 3 different ways. Performs on-screen editing for final chart preparation. Bar, line, pie, horizontal bar, high-low-close and volume, X-Y, scatter, area, log-log, semi-log, regression analysis and text charts. Supports most plotters, printers and graphic peripheral devices.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 26,000 since 1983 ☐ Cost: $375

SOFTWARE CLEARING HOUSE, INC.

☐ GraphStation
Animated spreadsheet graphics. Supports existing Lotus graph definitions. Linear/nonlinear projection from existing data. Includes line, bar, pie, freeform, text only and mixed graphics. Supports slide shows. Scatter diagrams of fixed-increment data and X-Y graphs. Linear, running average, Fourier and polynomial curve fitting.
IBM PC ☐ Cost: $495

SOFTWARE PUBLISHING CORP.

☐ Harvard Presentation Graphics
Title, lists, bullet points, 2- and 3-column, free-form and organization text charts. Pie, pie-bar, horizontal/vertical bar, clustered/stacked/overlapped bar, area, lines, curves, trend lines, bar-line, scatter and hi-low-close graphs. Five type fonts in 17 typefaces. Word processing functions. Free-running/manually controlled slideshow.
IBM PC, XT, AT, Portable PC ☐ 256 KB req.

SOFTWARE SOLUTIONS, INC. (CT)

☐ GrafTalk
Bar, pie, line, symbol, bubble, Gantt, organization and word charts. Includes sketching capabilities, text editor and mini spreadsheet.
IBM PC ☐ 48 KB req. ☐ Introduced: 1981 ☐ Cost: $450

SOURCEVIEW SOFTWARE INTERNATIONAL

☐ Organization Table
Constructs and prints tables of organization for complex organizations. Identifies subtables and components numerically. Projects tables on screen. Scrolls vertically and horizontally. Identifies positions by position name or incumbent name.
IBM PC ☐ Cost: $50

☐ SuperGraphs
User-controlled layout and design. Provides graphic feedback with each input. Generates bar charts, line graphs, pie charts, stick plots and symbol plots.
IBM PC ☐ 192 KB req. ☐ Cost: $50

SPRINGBOARD SOFTWARE, INC.

☐ Graphics Expander: Volume 1
Provides over 300 graphics for use in Broderbund's Print Shop banners, cards, signs and letterhead. Drawing and editing tools. Captures graphics from other sources including Koala Pad and digitizer.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $35-$40

STANSFIELD & ASSOCIATES

☐ P&RC Graphic Computerized Data Analysis
Data analysis through performance and status charts (P&RC). Multi-variate statistical chart optimizes graphics and alphanumerics with right brain, left brain capabilities. Tracks periodic operations and financial statistics for overview and early warning. Outputs analog/digital hard copy.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1978 ☐ Cost: $700

STELLA SYSTEMS, INC.

☐ Business Graphics/Syon
Includes column, pie, text and pictograph charts. Provides 4/8/16 colors. User-defined symbols. Integrates text and graphs. Imports data from numerous programs including Lotus 1-2-3 and Multiplan. Supports dot matrix, plotter, film recorder and laser printers.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 10,000 since 1985 ☐ Cost: $199

STRATEGIC LOCATIONS PLANNING, INC.

☐ Atlas
Generates maps and display data at state, county, congressional district, ADI or DMA advertising region, zip code and census track levels. Plots curves, points and polygons.
IBM PC ☐ 320 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $349

☐ Atlas AMP
Provides 10 dot sizes. Writes comments and labels geographic regions.
IBM PC ☐ 256 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $449

☐ ExpressMap
Supports data files and map boundary files needed to meet mapping requirements of planning, marketing and sales managers. Includes Atlas AMP.
IBM PC ☐ Cost: $499

SUCCESS SOFTWARE

☐ Schedule Graphics
Prints custom bar and milestone schedules from Lotus 1-2-3/Symphony input. Graphics symbols represent activity durations and milestones. Places text with symbols.
IBM PC ☐ Cost: $59

TECHART ASSOCIATES

☐ SignART

Composes signs and banners. Characters from ¼ to 6 inches. Signs may be printed or saved on disk.

IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $50

TECMAR, INC.

☐ Video Van Gogh Software

Digitizes all or part of video picture, displays digitized picture, transfers digitized picture to and from disk and prints image on printer.

IBM PC ☐ 128 KB req. ☐ Cost: $95

TEMPLATE GRAPHICS SOFTWARE

(division of Megatek Corp.)

☐ Micro Template

2D graphics subroutine library. CAE, process control monitoring, architectural design and scientific graph/chart generation applications. Coordinate modeling, viewing, blanking regions and charting/graphing routines.

IBM PC, RT PC ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $300

☐ Template

3D graphics subroutine library for scientific and engineering industries. 3D mechanical CAD, structure analysis, molecular modeling and finite element analysis applications. Mnemonic user interface. Includes hidden line and back face removal capabilities which aid in presenting realistic view of 3D geometric data.

IBM RT PC ☐ 73 KB req. ☐ Copies sold: 400 since 1981 ☐ Cost: $6,000-$40,000

THREE D GRAPHICS

☐ Perspective

Includes 32 preset 3D and 15 preset 2D graphs. Performs scale, rotate, move, zoom, pan, stretch and increase/decrease. User-controlled shape parameters. Adjusts label font for size, slant and boldness. Provides 180 shades/patterns. Imports/exports data between spreadsheets, word processors and editors.

IBM PC, XT, AT ☐ Cost: $295

TIMEWARE

☐ Showtext

Lays out text, calendar and organization charts for use in presentations and reports.

IBM PC ☐ Introduced: 1983

TRANSACTION SYSTEMS, INC.

☐ Advance Graphics System

Graphics in hi-res, med-res color and lo-res character. Twelve plot types. Overlay and multiple curve types available in plotting mode. Includes pie, point, line, high-low-close, bar, multi bar, stacked bar, stacked area, x-y scatter, x-y bar, x-y line, horz. bar, and area. Interfaces to popular data bases and spreadsheets.

IBM PC, XT, AT, PCjr, XT/370, 3270-PC, Portable PC ☐ Introduced: 1985 ☐ Cost: $250

☐ Automatic Business Graphics

Line, point, multi-bar, area, pie, high-low-close and Gantt charts. Allows user to change colors, overlay plots, display data values, show labels and grid lines. Accepts VisiCalc or Lotus 1-2-3 DIF files.

IBM PC, XT, AT, PCjr, XT/370, 3270-PC, Portable PC ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $55

UFO SYSTEMS, INC.

☐ UFO Process Monitor

Creates interactive animated graphics. Real-time control and monitoring of remote computers, implementation and control systems. Includes free form graphics editor. Touch screen and high pen interfaces available.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 20 since 1984 ☐ Cost: $6,000

UNIRAS, INC.

☐ BIZPAK

Business graphics system. Produces line charts with multiple styles, smoothing and interpolation, bar charts of horizontal, vertical, stacked and 3D format in width, spacing and shadow control, pie charts with explosion and labeling, shaded surface charts with multiple configurations and text charts.

IBM RT, AT

☐ UNIEDIT

Interactive drawing application. Draws organization charts, flow diagrams, word charts, forms and illustrations. Includes options for line, shapes, symbols, text, color and object manipulation.

IBM RT, AT

☐ UNIGKS

Implementation of international standard GKS 7.2, Level 2b. Provides graphical output, workstation independent segment storage and sync graphical input.

IBM RT, AT

☐ UNIGRAPH

Interactive graphics application. Produces visualization of line, bar, pie, plan chart and 3D bar chart formats. Provides single and multiple charts. Designs or modifies text, axes, chart style, grids, data and color.

IBM RT, AT

☐ UNIRAS

Graphics software for applications such as business graphics, 2D and 3D mapping, image processing, seismic display, interpolation routines and fundamental graphics building blocks including 3D primitives, hidden surface removal and light source calculations.

IBM RT, AT ☐ 640 KB req. ☐ Copies sold: 400 since 1978

UNISON WORLD

☐ Art Gallery I, II

Provides 140 graphics for use with Unison World's PrintMaster.

IBM PC, PCjr ☐ Cost: $25-$40

THE VAN DER ROEST GROUP, INC.

☐ R/Graph

Works with Revelation. Generates pie, bar, line, scatter, trend and area charts. Modifies and combines graph types. Produces summary overview of selected data/graphic components. Employs windows, cursor controlled selection lists and no change prompt data entry screens. Utilizes VDI standards.

IBM PC, XT, AT ☐ Cost: $395

WILLY VERBESTEL, INC.

☐ Micrograph

Produces med- or hi- res graphics. Simple or cumulative bar and pie charts, line graphs and scatter diagrams.

IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 600 since 1982 ☐ Cost: $95

VICTOR TECHNOLOGIES, INC.

☐ Easel Grafix

Creates illustrated documents, shaded 3D drawings, bar graphs, organization charts, computer games, flow charts, electronic diagrams, and logos. Graphics presentations are drawn on-screen with a cursor. Can be printed using a dot-matrix printer. Interfaces with the Graphics Tool Kit II's GRAFIX program.

IBM PC ☐ 256 KB req. ☐ Cost: $195

☐ Graphics Tool Kit II

Includes loadable, hi-res graphics library. BUSIGRAF, for common business graphics. Character graphics program. Character font editor. Defines soft keyboard. Standard Microsoft BASIC featuring graphics display output and screen dump to printer and musical notes produced on CODEC.

IBM PC ☐ 256 KB req. ☐ Cost: $295

VISUAL COMMUNICATIONS NETWORK, INC.

☐ EV Capture Plus

Interface between color printers and application programs. Enables user to transfer graphics to a VCN ExecuVision environment. Works with Lotus 1-2-3, Symphony, Chartman and Wordstar.

IBM PC, XT ☐ 34 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $125

☐ ExecuVision

Copies images from disk-based libraries and combines with business information. Library includes borders, initials and decorative designs, industry and business catalogs, professions, faces and figures, international symbols and landmarks, maps and regions, health and fitness collection, financial services, transportation and computer applications.

IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 20,000 since 1984 ☐ Cost: $395

☐ ExecuVision Pictorial Libraries

19 libraries of images that can be edited and incorporated into presentations using VCN ExecuVision. Maps, famous landmarks, people and industries.

IBM PC ☐ 256 KB req. ☐ Copies sold: 30,000 since 1984 ☐ Cost: $80-$90 per library

VISUAL DATA ENTERPRISES

☐ Perspective

Designs and Creates 3D objects on the hi-res screen. Up to 16 simultaneous windows can be displayed in perspective, oblique, or 6 different planar orientations. In each window, the object can be separately scaled, rotated, or translated.

IBM PC ☐ 256 KB req. ☐ Copies sold: 25 since 1985 ☐ Cost: $750-$995

☐ VPAINT PLUS

Presentation and illustration graphics system. Hi-res color graphics are created with 136 dithered colors, 512 X 512 resolution, and 4,096 colors to select from. Creates title slides, product layouts, transparencies, storyboards, diagrams, training materials, medical or legal illustrations, symbols, and video presentations.

IBM PC ☐ 256 KB req. ☐ Copies sold: 351 since 1983 ☐ Cost: $1,599-$2,999

VISUAL ENGINEERING, INC.

☐ ProChart

Bar/pie charts, scattergrams and line graphs for display on terminals, video monitors, projection displays, cameras and plotters. Device independent.

IBM XT/370, RT/AIX ☐ 350 KB req. ☐ Introduced: 1983 ☐ Cost: $1,195 and up

VISUAL INTELLIGENCE CORP.

☐ DataViews

Builds displays of data streams. Formats include bar, pie and strip charts, line graphs, dials, meters, radial/scatter/vector/surface plots and flowfields. Applications include simulation, computer integrated manufacturing, business and finance.

IBM AT ☐ 2,000 KB req. ☐ Introduced: 1983

☐ DV-DRAW

2D drawing editor. Accesses library of graphics primitives such as lines, rectangles, circles and arcs, and ISA-based symbols to create customized drawings. User designates color, size and position of each element.

IBM AT

☐ DV-Routines

Integrates any portion of DataViews graphics functionality into other software or hardware products.

IBM AT

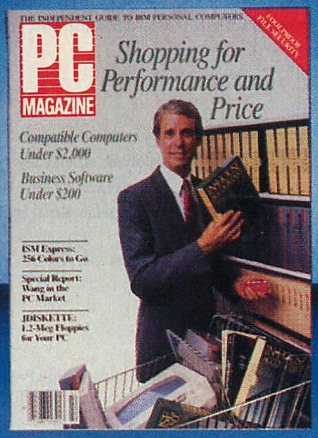
WANG LABORATORIES, INC.

☐ PC Business Graphics

Bar, line, and pie charts. Designed for color monitors using PC lo-res controller. Permits eight line patterns. Reference information on graphics functions. Creates logarithmic, sine and linear regression curve models.

IBM PC ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $300

PC MAGAZINE LEADS YOU OUT OF THE INFORMATION JUNGLE...



Exploring the PC market is a confusing, and often risky, endeavor.

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PC MAGAZINE
For product reviews you can use.

WEST COAST CONSULTANTS

☐ Curve II

2D hard-copy graphics capability for owners of Bausch and Lomb's Model DMP plotters. Customized graphics. Plots cartesian, parametric and polar equations; data points entered from keyboard or disk files; shaded horizontal and vertical bar graphs; and linear and logarithmic grids and scaled axes.
IBM PC ☐ Cost: $275

☐ Curve II CRT

Scientific and engineering graphics designed to plot equations and data, linearly and logarithmically, including line, bar and pie charts on screen, plotters and printers.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2,500 since 1979 ☐ Cost: $325

☐ Curve Organizer

Designs and develops flow charts and hierarchical diagrams for management.
IBM PC ☐ Cost: $150

WEST END FILM, INC.

☐ Artwork

Creates graphics. Display lists and 3D manipulation. Outputs to hi-res camera.
IBM PC, XT, AT ☐ Cost: $495-$2,450

☐ Chartwork

Business graphics. Supports line, curve, bar, area and pie charts. Outputs to hi-res camera. Integrates with Artwork.
IBM PC, XT, AT ☐ Cost: $495-$750

WESTMINSTER SOFTWARE, INC.

☐ Pertplotter

Plots 500 activities in arrow or precedence. Produces compressed logic diagrams and provides time windowing. Allows views of nodes and connectors. Memory dependent. Additional memory plots larger networks.
IBM PC, XT ☐ 320 KB req. ☐ Copies sold: 4,000 since 1984 ☐ Cost: $495

WILEY PROFESSIONAL SOFTWARE

(division of John Wiley and Sons, Inc.)

☐ Graph-Pro

Analysis techniques include regression, smoothing and confidence limits. Generates charts and graphs. Tilts/rotates 3D bar charts. Plots logarithms and semi-logs.
IBM PC, XT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $100

☐ Slide-Pro

Generates transparencies, enhancing reports and presentations. Includes four character sizes, bold and italicized characters, bullets, underlining, highlighting. Manipulates 8 pen colors on a plotter.
IBM PC, XT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $100

SAM WILSON & ASSOCIATES

☐ Banner

Prints one- or two-line signs and banners. User-specific upper/lower case letters, numbers and special symbols. Connects to parallel printer. Editing capabilities.
IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $40

P.A. WOOD, LTD.

☐ High Resolution Graphics

Designs and prints letterheads, diagrams, small signs and personal creations. Allows repeating and superimposition.
IBM PC ☐ 128 KB req. ☐ Cost: $80

WOODSMITH SOFTWARE

☐ Magic Keyboard

Prints letters from single size to 10 feet tall and horizontal/sideways banners to 12 inches tall. Includes several fonts and sizes. Compatible with Okidata 92-3, 192-3, Epson FX80, 100 and Star Micronics.
IBM PC ☐ Cost: $47

WORDTECH SYSTEMS, INC.

SEE AD ON PAGE 321

☐ dBCHART

Scans data files and selects the scale, hatching patterns, colors, and other parameters to create an optimal chart. Creates pictograph charts, which use symbols to represent quantities.
IBM PC, XT ☐ 128 KB req. ☐ Cost: $99

XIPHIAS

☐ Videograph

Creates presentation quality graphics including slides, transparencies and on-screen video displays. Tool for graphic artists, product designers, industrial draftsmen and architects.
IBM PC, XT ☐ 384 KB req. ☐ Copies sold: 1,000 since 1981

ZENOGRAPHICS

☐ Autumn

Allows users to select from library of over 100 types of charts, which are created through menu prompts.
IBM PC ☐ 384 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $595

☐ Mirage

Data base graphics and query system. Produces charts, maps, diagrams and text images. Accepts data from Lotus 1-2-3, MultiPlan and any ASCII file format. Ad hoc or production graphics capabilities.
IBM PC ☐ 384 KB req. ☐ Copies sold: 2,000 since 1981 ☐ Cost: $895

Z-SOFT CORP.

☐ Frieze

Graphics screen grabbing from other programs. Prints screens on 30 printers. Stores screens on disk, for later enhancement with PC Paintbrush. Includes selectable screen viewport, and enlarges, reduces and rotates the image before printing.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 40,000 since 1984 ☐ Cost: $80

☐ PC Paintbrush

Produces freehand graphics. Modifies graphics produced by other programs using Frieze. Includes zoom, adjustable palettes, rubber band circles, curve drawing, rounded boxes, variable font stroke widths, cut/paste, undo and adjustable aspect ratio of drawings. Edits entire screen and pictures larger than screen.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 40,000 since 1984 ☐ Cost: $139

☐ PC Presentation

Presentation program of pictures created by PC Paintbrush or captured with Frieze. Places pictures on screen in 11 ways. Performs branching/looping. On-screen palette adjustment without changing picture. Intelligent picture caching. Displays character text screens. Requires PC Paintbrush Version 3.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 150 since 1985 ☐ Cost: $95

GRAPHICS—UTILITIES & SUBROUTINES

ADVANCED TECHNOLOGY CENTER

☐ DIP-10 PLUS

Device and machine independent plotting based on PLOT-10 TCS standard.
IBM PC ☐ 256 KB req. ☐ Copies sold: 275 since 1982 ☐ Cost: $550

☐ GRAFPAK-CORE

3D implementation of ACM Siggraph Core specifications. FORTRAN subroutine library for developing 2D, 3D, color, batch or interactive graphics applications programs.
IBM PC ☐ 256 KB req. ☐ Copies sold: 450 since 1982 ☐ Cost: $550

AFFIRMWARE

☐ PC Color Spectrum

Generates kaleidoscopic patterns on RGB display and color/graphics adapter. Uses alphanumeric mode. Produces video frames in any of 178 shades and colors.
IBM PC, PCjr, XT ☐ 64 KB req. ☐ Cost: $35-$44

AMT CORP. (ADVANCED MICRO TECHNOLOGY)

☐ PC-SnapShot

Screen capturing system. Captures graphics or text screen image on PC and saves it on disk for later use in presentations, tutorials and documentation. Creates custom software demonstrations and tutorial disks. Compatible with AMT's Solo Learning System.
IBM PC, XT, AT ☐ Introduced: 1985 ☐ Cost: $49

THE BINARY WORKSHOP

☐ Easy Color For Symphony

Utility to add color to Symphony. Protected cells, unprotected cells, pointers of both, error message, worksheet borders, screen borders. Colors remain resident in future Symphony sessions. Adds colors and stripes to graphs.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $60

☐ Easy Color for 1-2-3

Sets colors for foreground and background of various regions of worksheet. Protected cells, unprotected cells, pointers, worksheet borders, and screen border. Adds colors and stripes for graph page. Colors remain resident for future Lotus 1-2-3 sessions unless Easy Color is re-run.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $50

BRIDGE COMPUTER CO.

(division of Sea Data Corp.)

☐ Plotpak

High-level language interface to graphics devices. Provides windowing, linear print arrays, polygon drawing, annotations, plotting symbol/line selection, labeling and coordinates conversions. Drives screen and plotter simultaneously.
IBM PC ☐ Copies sold: 250 since 1980 ☐ Cost: $275

BRIGHTBILL-ROBERTS/THE MARKETING CHANNEL AND CO., LTD.

☐ GraFIX Partner

Creates, edits and cuts and pastes graphics. Performs global changes. Processes images instead of words. Free form drawing program operated as standalone. Supports printers, plotters and pallette. Requires graphics adaptor and color monitor.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 30,000 since 1986 ☐ Cost: $149

CEEGEN CORP.

☐ GMS

Utilizes Ceegen-GKS subroutines. Consists of a graphical modeling class library that provides the object-oriented architecture and a graphical modeling language which creates, edits and displays a GKS application.
IBM AT ☐ Introduced: 1985

M.I.B. CHOCK

☐ CGIPs (Computer-Generated Image Processors)

Semi-custom image processing and modeling programs. Examples include edge detection, thresholding, template matching, point classification, clustering, covariance, histograms, function minimization, interpolation, distance and area calculations and crosstabulation. Operates on 2D/3D data.
IBM PC ☐ 56 KB req. ☐ Copies sold: 12 since 1982 ☐ Cost: $200 and up

☐ PICDMS III (Picture Database Management System)

Language and data management for image processing, engineering models, cartography and scientific applications. Handles sets of picture data and 2D/3D variables. Builds 3D objects which may be analyzed by variety of operations.
IBM PC ☐ 56 KB req. ☐ Copies sold: 4 since 1982

COMPUTER MATHWARE

☐ Digiware

Provides software link between digitizer and IBM PC compatible. Enters, stores and calculates with graphical data. Perimeter, area and volume calculations are automatic.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $300

COMPUTER TECHNOLOGY CORP.

☐ ScreenWare

Pixel-based color graphics utility. Graphic Designer creates color graphic displays depicting process or machine being monitored. Graphic Animator animates displays in real-time. Runs co-resident with existing applications, external host or programmable controller.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $2,500

CORE ANALYTIC, INC.

☐ Visionbase

Stores/retrieves photographic images which link to textual data. Searches relational data base structure by text Keywords. Displays, stores and communicates corresponding photographic images to remote systems. Hi-res color/B&W images. Includes decision support, archival and telecommunications systems applications.

IBM PC

CYBERENGINEERING CORP.

☐ CyberTools CRT Drawing Library

Color paint program for med- and hi-res graphics, drawing and curve plotting in BASIC; etch-a-sketch type drawing, and forms generation and management. Draws triangle to user's specifications. Integrates forms into BASIC applications programs.

IBM PC

☐ CyberTools Graphics Utilities & Library

Transfers to color graphics adapter and monitor from DOS. DOS switch changes from 40 to 80 columns, to med-res mode and 80-column mono mode. BASIC bargraph program.

IBM PC

DATA TRANSFORMS, INC.

☐ Fontrix

Creates graphics on extended screen. Fonts generator allows character sets to 48 pixels. Hi-res graphics with dot by dot placement control, 96 foreground/background colors. Optionally interfaces with mouse. Prints to dot matrix printers. Lines, boxes, ellipses and cut-and-paste.

IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Copies sold: 10,000 since 1983 ☐ Cost: $95-$155

DATACOPY CORP.

☐ Fastore

Image scan and storage. Inputs image data to electronic archives. Establishes data bases of documents containing text, line art and written annotation. Archives historical documents, engineering drawings, maps and handwritten forms/documents. Distributes document data bases to remote locations.

IBM PC, XT, AT ☐ 256 KB req.

☐ WIPS (Word Image Processing System)

Integrated word and image processing system, OCR and CAD interface. Merges word processing, DBMS and graphics with hi-res image capturing system. Captures, manipulates, stores and transmits picture and line art images. Includes photos, line art and storage/transfer.

IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1983 ☐ Cost: $3,950

☐ WIPS Editor

Allows Datacopy image files to be modified down to the picture level. Edits captured images using graphics tools that will draw, fill, airbrush, erase, set type and rearrange the screen. Provides cut and paste facilities.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $245

☐ WIPS Jr.

Integrated word and image processing system. Receives transferred image files via floppy disk or standard communications media. Image files can be cropped, scaled, rotated and stored to disk in compressed form. Displays image with text files to verify formatting. Prints as a combined text and image file.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $495

DECISION GRAPHICS, INC. (AL)

☐ PCT

File transfer and ACI dialogue handler for AutoCAD system. Allows AutoCAD user to log on to Intergraph, DEC VAX or PDP and exchange drawing files using Decision Graphics' ACI program. Handles system to system communication, file transfers and ACI program execution.

IBM PC ☐ Cost: $75

DIGITAL VISION, INC.

☐ COMPUTEREYES

Slow-scan connection between any standard video source and computer. Acquires B&W image. Captures grey-scale and high-contrast images. Performs pattern recognition, security, quality control, spatial measurement, robotics, AI, industrial controls and computer art.

IBM PC ☐ 48 KB req. ☐ Copies sold: 5,000 since 1984 ☐ Cost: $130-$250

DUNCAN-ATWELL COMPUTERIZED TECHNOLOGIES, INC.

☐ LENIBASE/jr: Graphic Data Base System

Stores windows of graphic information to be recalled by BASIC programs or LENIPEN programs. Inputs to LENIMATION/jr, the video animation system.

IBM PC, XT ☐ 128 KB req. ☐ Cost: $150

ELECTRONIC COURSEWARE SYSTEMS, INC.

☐ Image Maker

Converts character sets into BASIC formats. Creates characters with seven colors and character sizes to 45 by 45 pixels. Character sets hold 150 characters.

IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $80

ENERTRONICS RESEARCH, INC.

☐ EnerConnect - Program 1 GDDM

Mainframe graphics files can be viewed, reduced, enlarged, rotated, annotated, and cut and pasted under PC processing control. Output can be directed to PC-based peripherals, printers, plotters, Polaroid Pallette or sent back to the host for output on the Host's peripherals. Allows data from Lotus 1-2-3 and Multiplan.

IBM PC, XT, AT, 3270-PC ☐ Introduced: 1985 ☐ Cost: $595

ENSIGN SOFTWARE

☐ HP7470 Plotter

Plots 12 month moving average for two sets of data. Letters slide plate from text stored in data statements. Uses plotter to digitize images. Plots a polar function equation and an Archimedes spiral equation.

IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 200 since 1982 ☐ Cost: $25

GEOCOMP CORP.

☐ Geocontour

Plots contours for variety of data. User inputs coordinates and data with desired contour values. Uses linear interpolation to locate and draw the contour lines. User may add geometry, symbols, labels and titles.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $550

☐ GEOGRAF

Plotting subroutines in FORTRAN, BASIC and Better BASIC. Prepares high-quality, customized graphs of any type. Produces graphs on screen, dot matrix printer and pen plotter. Formats axis labels. Adds grids to plotted data. Windowing and scaling. Twelve optional character fonts.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $275

GSS

☐ CGI

Computer graphics interface for raster and vector graphics. Provides device-independent interface between application program and graphical I/O devices. Provides device driver management, coordinate transformation, character/file I/O, graphic emulation and error reporting. Incorporates language bindings to C, FORTRAN, Pascal, BASIC compiler and Macro Assembler.

IBM PC, AT ☐ Cost: $495

☐ CGM Metafile Interpreter

Linkable subroutine library that reads, interprets, modifies and redraws graphics images stored in CGM format. Transmits images to remote systems and recreates them on graphics peripherals. Transfers information between OSs. Supports raster images and bitmaps.

IBM PC ☐ Cost: $295

☐ GKS

Full-level 2b implementation of ANSI and ISO GKS standard. Supports numerous RT displays and peripherals. Device independent. Supports VDM and GKS metafile standards. Bundles graphics primitives/attributes for picking and special handling. Ports applications to other operating environments including DOS.

IBM RT/AIX

☐ Toolkit Kernel System

ANSI/ISO GKS Level 2b standard subroutine library of low-level graphic primitives designed for programmers in fundamental graphics construction. Works with GSS-DRIVERS for device independence. Portable applications include business/presentation graphics and CAD/CAE.

IBM PC, RT/AIX ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $495-$795

HENSON SYSTEMS, INC.

☐ EmuPlot III - Three-Dimensional Printer Graphics

Graphics language interface and Pascal/MT or MicroSoft FORTRAN subroutine for production of hi-res hard copy graphics.

IBM PC ☐ Copies sold: 3 since 1983 ☐ Cost: $300

HYPERGRAPHICS CORP.

☐ Authoring System

Creates diskette based tutorials. Menu/sub-menu branching sketching, cut and paste and graphic editor. Business and presentation graphics, windowing with object libraries. Creates color graphic, screens and animation. Stores 1,000 screens on 360 KB disk.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $395

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ GDDM Graphics Data File-Color Support

IBM no. 5668-860. Business graphics support. Produces graphics support data file from screen image produced by Interactive Chart Utility, converts created file to IBM graphics language file, writes file to IBM Color Plotter attached to Graphics Attachment and tests installation.

IBM PC, XT, XT/370, 3270-PC

☐ GKS ANSI (Graphical Kernel System)

IBM no. 6024-203. 2D graphics applications portability between computer systems supporting GKS standard. Provides device independence. Supports segment rotation, scaling, transformation between world, normalized device coordinate and device coordinate systems.

IBM PC, XT, Portable, PC, AT ☐ 256 KB req. ☐ Cost: $295

☐ **RT PC Graphical File System**
IBM no. 5669-062. Provides standardized retrieval, storage and portability of 2D graphics. Sends encoded pictures to files in virtual device metafile format rather than sending graphics data to output device. Icon-driven.
IBM RT PC ☐ Cost: $600

☐ **Top View Programmer's Tool Kit**
IBM no. 6024-133. Develops filters to allow mouse and cut and paste facilities. Window-design aids and panel utilities. Provides language interfaced to Top View and assists in application development.
IBM PC, XT, Portable PC, AT, 3270-PC ☐ 256 KB req. ☐ Cost: $429

☐ **3270-PC Graphics Control Program**
IBM no. 1887-697. Business graphics support. Allows selection of screen configurations, manipulation and interaction with displayed alphanumeric and graphic data and management of screen presentations.
IBM PC ☐ Cost: $450-$550

IMEDIA CORP.

☐ **PC Presents**
Integrated presentation support for Lotus 1-2-3. Transforms Lotus 1-2-3 graphs into color slides, prints and overhead transparencies. Produces title/bullet charts and tables. Combines text and graphs. Produces visuals at Service Center Network. Optional Video Server provides on-site output.
IBM PC, XT ☐ Cost: $350-$495

☐ **PC Presents Video Server**
Used with PC Presents , links Lotus 1-2-3 to GPC's VideoShow 150 Business Presentation System, PhotoMaker 150 and PrintMaker 130 to produce on-site output of graphs/charts on 35mm slides/prints and/or color and B&W hard copy.
IBM PC, XT ☐ Cost: $150

INFORMATION BUILDERS, INC.

☐ **Focus Vision**
PC/Focus add-on. Stores color video camera/videotape recorder images including people, places, products and important papers in new or existing data bases. User can make image larger or smaller and place it anywhere on screen. Stores graphics produced by other programs.
IBM PC, XT, AT, 3270-PC ☐ 512 KB req. ☐ Introduced: 1986 ☐ Cost: $750-$995

INTELLUTION, INC.

☐ **Epson FX-80/100 Graphic Print Program**
Provides graphic printout of operator graphic displays.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $195

INTERACTIVE GRAPHICS SERVICES CO., INC.

☐ **AutoLINK**
Allows two-way transfer of graphic files between a microcomputer utilizing the AutoCAD Graphics software package and an Intergraph system based on a VAX-minicomputer. Utilizes Standard Interchange Format (SIF) allowing translations to other systems. Includes integrated file transfer software.
IBM PC ☐ 512 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $10,000

KINETIC VISION SYSTEMS

☐ **4D Geometry Package Kinetic Image Synthesizer**
Includes generation, reading, writing, editing, and viewing of 4D geometric images. Controls roll, pitch, yaw, translation, scaling, with viewpoint mapping in perspective, hither/yon clipping of geometries in data base. Calculates and displays real-time motion for objects over variable number of frames.
IBM PC ☐ 64 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $1,500

LIFEBOAT ASSOCIATES

SEE AD ON PAGE 291

☐ **Multi Halo**
Supports IBM PC color and monochrome graphics board and IBM/Epson printer. Functions from FORTRAN, BASIC, PASCAL, C, or any language compiling to OBJ files. Includes arc, pie, circle, ellipse, box, bar, line, point, fill, flood, set and palette. Controls text, graphics and crosshair cursors.
IBM PC ☐ 128 KB req. ☐ Copies sold: 4,000 since 1984 ☐ Cost: $250

LIFETREE SOFTWARE, INC.

☐ **ColorMagic**
Memory resident color mapping. Replaces color palette offered within any application running on IBM Enhanced Graphics Adapter. Provides choice of 16 out of 64 available colors and 15 pre-configured palettes. User can create up to 48 custom palettes. Interactive color selection.
IBM PC, AT, XT ☐ 128 KB req. ☐ Cost: $40

LIMICON, INC.

☐ **Softbus**
Controls multiple resident programs written in C, Pascal, Assembly, BASIC, and/or other languages. Provides machine-independent graphics and device control language (e-naps). Basis for ProDraw, Animite, Chartright and other Limicon software.
IBM PC, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $100

THE LITE-PEN CO.

☐ **Soft-Pen. 123**
Uses Lotus 1-2-3 with light pen. Cursor movement and grid locations enhance graphic capability and shrinks graphs, displaying four simultaneously. Moves portion of worksheet or help menu to color monitor for simultaneous viewing. Repeats last sequence of commands.
IBM PC, XT, AT, PCjr ☐ Cost: $80

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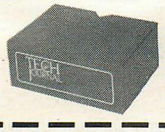
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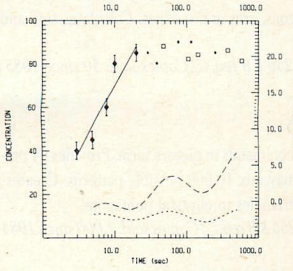


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MICROCOMPATIBLES
301 Prelude Drive, Silver Spring, MD 20901
(301) 593-0683

LODGE ELECTRONICS

☐ Image Ace II

Continuous, single screen and remotely triggered acquisition modes. Provides 320 X 200 resolution with 4 level digitization. Monochrome or pseudocolor display using IBM PC color palettes. Mixes images with text. Pop-up windows. Works with VCRs, cameras or any other source of standard video.
IBM PC, XT ☐ 128 KB req. ☐ Cost: $295

MATRICES, INC.

☐ VIP (VideoShow Interface Processor)

Captures spreadsheet, word processing and other data for presentation. Works with Lotus 1-2-3, SuperCalc, Multiplan, WordStar and other text-oriented applications including mainframe computer programs. Eight color palette. Supports VideoShow overlay and pause functions. Supports PhotoMaker for slide production. Developed for use with VideoShow.
IBM PC, XT, AT ☐ 256 KB req.

MEDIA CYBERNETICS, INC.

☐ HALO Graphics Tool Box

Includes point, line, arc, circle and ellipse. Hatch styles, dithering commands, pattern fills, world coordinates, fonts, image compression and animation. Device independent. Interfaces to most major languages.
IBM PC ☐ 256 KB req. ☐ Copies sold: 40,000 since 1982 ☐ Cost: $300

MEGA CADD, INC.

☐ Design Board Illustrator

Presentation and graphics enhancement tool. Creates graphics for business and design applications. Enhances images from Design Board Professional.
IBM PC, XT, AT ☐ 512 KB req.

MICHTRON, INC.

☐ GRAPHPAC

Graphics subroutines. Graphics interface for Lattice C, DeSmet C, Turbo Pascal and machine language. Accesses graphic related commands. Draws lines, rectangles, filled boxes, circles, ellipses, polygons, arcs and wedges. Calculates sine and cosine. Prints text.
IBM PC ☐ 256 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $50

☐ PICASSO

Represents commands in picture form. Provides 64 pre-mix colors or user may mix 10,000 possible patterns. Creates polygon types from triangles to eliptical pentagons.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $100

MICRO DATA BASE SYSTEMS, INC.

☐ K-Paint

Painting for use with KnowledgeMan/2. Creates customized forms for color or monochrome screens or for printer. Paints foregrounds and backgrounds in black, blue, red, cyan, green, magenta, brown or white. Shrinks, expands, moves or modifies color blocks.
IBM PC ☐ 320 KB req. ☐ Introduced: 1984 ☐ Cost: $100-$375

MICRO-Z CO.

☐ Print-Graf

Graphics screen dump to printer. Print out of med- or hi-res graphics to IBM or Epson printer with GRAPHTRAX. Handles several formats and densities. PRTSC key initiates or calls from BASIC or Pascal.
IBM PC ☐ 64 KB req. ☐ Copies sold: 3,000 since 1982 ☐ Cost: $45

MICROCOMPATIBLES, INC.

☐ GRAFMATIC

Seventy FORTRAN subroutines. Utility package sets screen mode and foreground and background color; 2D graphics program generates, edits and merges objects. Draws user-defined curves. Rotates and scales 3D plots and solid objects. Hidden line removal. Supports Microsoft, R/M, and Lahey FORTRAN compilers.
IBM PC ☐ 256 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $135

☐ OMNIPLOT (S) and OMNIPLOT (P)

2D and 3D graphics for scientists and engineers. Screen package and plotter driver supports HP or Houston Instrument plotters.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $135-$240

☐ PLOTMATIC

Pen plotter FORTRAN/Pascal graphics support. Interfaces with Microsoft, Ryan-McFarland, IBM Professional or Lahey FORTRAN in standalone mode or with Microcompatibles with GRAFMATIC.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1000 since 1984 ☐ Cost: $135

MICROPLOT SYSTEMS

☐ HpPlot-III

Interprets Tektronix commands and converts them to HP-GL. Recognizes Tektronix 4010, 4014 and some 4027 commands. Requires PC-PLOT III. Allows a picture file captured using PC-PLOT graphics terminal emulator to be drawn on pen plotter.
IBM PC ☐ 128 KB req. ☐ Copies sold: 2,100 since 1985 ☐ Cost: $50

☐ LotusTek

Converts picture file generated using Lotus 1-2-3 or Symphony into standard Tektronix 4010 command file. Allows pictures to be sent to remote computers using ASCII transfer.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,800 since 1985 ☐ Cost: $40

☐ Slide Show

Merges picture files into single file creating slide show from group of pictures. Up to 64 pictures can be included in one show. Supports all major graphics cards.
IBM PC ☐ 128 KB req. ☐ Copies sold: 400 since 1985 ☐ Cost: $40

MOSAIC SOFTWARE, INC.

☐ Softplot/BGL

Modular mergeable subroutines and command preprocessor which adds 40 graphics commands to BASIC. Axis, automatic label justification and 3D perspective plotting.
IBM PC ☐ 64 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $99

NORFORK SYSTEMS

☐ Comp-Art

Generates coordinates and code. Draws charts, maps, pictures and logos. Accepts text and erases mistakes.
IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $60

NOVA GRAPHICS INTERNATIONAL CORP.

☐ GKS

Implements GKS. Distributed architecture separates all or portions of system on host and workstations, microprocessors or PCs. Provides a device independent graphics interface for application program development.
IBM PC, AT, 3270-PC/GX ☐ 80 KB req. ☐ Copies sold: 100 since 1983

OPTEL COMMUNICATIONS, INC.

☐ Telewriter II-PC

Real-time, interactive transmission of tablet-based writing, keyboard-generated text and arrow pointer. Screen capture and transmission of PC-generated, graphics and 40/80-column text. Built-in compression for subminute transmission. Broadcast capability. Screen data storage. Random access with forward and reverse recall. On-line directory.
IBM PC, XT, AT ☐ 256 KB req.

PACIFIC BASIN GRAPHICS

☐ 100 or 200 Subroutine Library

Designs custom graphics and original drawings with CalComp-Versatec compatible subroutines or will host previously developed software.
IBM PC ☐ 64 KB req. ☐ Copies sold: 250 since 1982 ☐ Cost: $500 and up

PAL SOFTWARE

☐ Color Printer Support Program

Allows user to dump graphics created using ARTPAK into color printer. Dumps graphics in user-defined color combinations, sizes and color textures. Selects print position. Rotates images in quarter turns. Requires IBM PC Color Printer.
IBM PC, XT, AT, PCjr ☐ Cost: $79

☐ Programmer's Animation Utility Program

Adds animation created with ARTPAK into user's own programs. Calls up to 36 animated sequences or musical strings. Calls from any programming language that can call .EXE files.
IBM PC, XT, AT, PCjr ☐ Cost: $100

POLARIS SOFTWARE

☐ Symbol Sheet

Includes 144 graphic symbols to add to documents or assign to keyboard characters. Changes symbol assigned to keyboard character at any time. Works with Polaris systems.
IBM PC, XT, AT ☐ 196 KB req. ☐ Cost: $50

PRIOR DATA SCIENCES PRODUCT SALES, INC.

☐ GKS/C

Implements GKS standard. Supports metafiles and VD/CGI standard. Segments can be scaled, rotated, flashed and made visible or invisible. Performs multiple display control, communicates with other users and maps multiple windows onto one screen.
IBM PC, XT, AT ☐ Copies sold: 19 since 1984 ☐ Cost: $12,000

RIX SOFTWORKS, INC.

☐ EGA Graph

Collection of subroutines which provide graphical capabilities for Enhanced Graphics Adaptor card in hi-res mode. Allows interface with Interpreted and Compiled BASIC, and Pascal. Includes print screen driver.
IBM PC

☐ EGA UTIL

Manipulates Enhanced Graphics Adaptor in text mode. Adjusts each of 16 palette registers individually. Number of lines on screen can be changed from 25 to 35 or 43. Smooth scroll, 256 user-defined characters and print screen drivers.
IBM PC

SAVANT CORP.

☐ Graphics Utility

Creates and edits shapes on enlarged grid. Different sizes and fonts for special characters sets, shapes for animation. Character size to 39 x 39 pixels. Combines into larger pictures stored on disk. Hard copies from graphics-capable IBM or Epson printer.
IBM PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $85

SOFT & FRIENDLY

☐ PrintScreen

Makes hard copy of graphic screens. Operates with most applications including Lotus 1-2-3. Prints graphs in three sizes. Copies graphs from display screen to printer.
IBM PC, PCjr, XT ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $70

SYSTEMS MODELING CORP.

☐ Blocks
Enters SIMAN model graphically and interactively. Draws blocks on screen. Highlights fields to be filled in. Checks syntax. Generates model input statements for SIMAN. Prints block diagram models using Epson FX-80 printer. Requires IBM graphics board.
IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $750

☐ Elements
Preprocessor. Constructs experiment portion of Siman simulation. Scans model file and creates required experimental frame. Provides error checking. Compiles files or outputs experiment in statement form.
IBM PC, XT, AT

☐ Playback
Postprocessor. Captures system dynamic behavior via graphical animation of simulation results. Represents queue lengths and resource utilizations by bar graphs and boxes. Constructs animation layout via menu driven interactive session. Animates 6 variables simultaneously. Displays in color what is occurring in system.
IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $250

THE TELESYS GROUP, INC.

☐ APPLEPIPS, MICROPIPS
Remote sensing analysis, feature recognition and pattern detection research. Subsetting, density slicing, histograms, image scanning/algebra, normalization, signature training and pixel classification.
IBM PC ☐ 48 KB req. ☐ Copies sold: 250 since 1981 ☐ Cost: $495

UNIRAS, INC.

☐ GIMAGE
Subroutines for processing and rendering of digitally encoded information which is organized into raster scan lines. Accepts channel or contour oriented data. Suited to applications such as data capture from satellites, medical scanners, video cameras and other image capture equipment.
IBM RT, AT

☐ RASPAK
Subroutines for performing fundamental graphics in 2D and 3D. Develops interactive, device-independent color graphics applications. Includes Unipict Interpreter metafile capability.
IBM RT, AT

VERSA COMPUTING, INC.

☐ Font Editor
Creates and edits custom character fonts for med- and hi-res graphics. Creates graphic characters. Alternate type styles and foreign alphabets include BASIC, BASICA or Assembly language programs. Uses alternate character fonts when printing to screen one or screen two.
IBM PC, XT ☐ 64 KB req. ☐ Cost: $25

☐ Graphics Hardcopy System
IBM PC, XT ☐ 64 KB req. ☐ Cost: $25

☐ Versawriter Drawing System
Accepts 8 ½ by 12 inch originals. Uses paddle game adapter connector. Features line draw, airbrush and dot, erase, recall, save, pie charts, bar graphics, circle, color fill in, 100 colors, microscope, area/distance, two draw modes and 320 by 640 resolution.
IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 9,000 since 1979 ☐ Cost: $299

VISION RESEARCH

☐ MegaFreeze
Snapshot utility. Transfers text/graphics screen images to MegaBuffer. Redirects Shift-PrtSc interrupt vector. Regular/double size and regular/double inverse snapshot selectable. Requires MegaBuffer.
IBM PC, XT, AT ☐ Cost: $75

☐ MegaScan
Image manipulation and editing tools. Performs move, copy, scale, rotate, erase, reverse, lighten, zoom darken halftone, mirror and vertical flip. Includes sketches, lines, boxes, circles and ellipses. Left, right, both and center justification fonts. Requires MegaBuffer.
IBM PC, XT, AT ☐ Cost: $295

VISUAL ENGINEERING, INC.

☐ C-Chart
Spline curve fitting, regression curves, major/minor ticks, individual pie slice explosion, multiple fill axes and charts, pattern styles, color or monochrome, grids, annotation and axis label rotation, legend generation, fill above-below-between curves, variable bar clustering and stacking.
IBM RT, XT/370/AIX ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $995 and up

☐ GeniSys
Integrated 3D software library and utilities. Produces images and scenes ranging from wireframe to photographic quality. Styles include facet, smooth and global shading, and wireframe. Constant time ray tracing.
IBM RT/AIX ☐ Introduced: 1985 ☐ Cost: $8,000 and up

☐ GKS
Implements ANSI/ISO GKS for device-independent graphics. Includes graphical I/O, inquiry, error trapping and disk storage. Development or run-time-only system available for including graphics with other applications.
IBM XT/370, RT/AIX ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $695 and up

WHITE SCIENCES, INC.

☐ Icon Builder
Includes graphics, template editor, template install and overlay print programs. Allows VARs to customize generalized applications to specific vertical applications. Creates business presentation graphics. Combines word processing text files with graphics.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $80

ZENOGRAPHICS

☐ VR
Virtual rasterizer. Converts graphics images into common graphics format while enhancing images. Interfaces to output device to create hard copy from graphics information displayed on screen.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $195

Z-SOFT CORP.

☐ Chart Interpreter
Allows PC Paintbrush to draw 1-2-3 PIC graph on screen. Provides hi-res Lotus graphics. Embeds full-screen 1-2-3 graph inside larger document.
IBM PC, XT, AT ☐ Cost: $30

LABORATORY SYSTEMS

ANTOMEX CORP.

☐ Laboratory Office Management
Provides patient billing, AR, aged trial balance and account status/productivity. Files for referring physicians, diagnoses, multiple pricing and procedures. Permits label generation, insurance claim production and control.
IBM PC, XT ☐ 64-128 KB req. ☐ Copies sold: 2 since 1979 ☐ Cost: $4,995

CGRS MICROTECH, INC.

☐ Control Mode
Allows data base modifications to device legends, zero/one state messages, engineering units and curve numbers for linearization. Displays analog and contact I/O devices. User may toggle contact output state and device.
IBM PC ☐ Cost: $125

CITATION COMPUTER SYSTEMS, INC.

☐ Microbiology
Includes Kirby-Bauer and MIC susceptibility reporting with results interpretation, management reporting for CAP workload and epidemiology and patient reporting.
IBM PC, XT

CLOVIS LABORATORY SOFTWARE, INC.

☐ Hummingbird Laboratory System Version S2/D2/H2
Specialized patient test result data base and medical laboratory management system. Capacities include 1,000 tests, 500 doctors and 1,500 comments. IBM XT handles 8,000 patients and 180,000 results.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $3,000-$9,000

☐ Hummingbird Quality Control System
Medical laboratory quality assurance system. Westgard rule checking, statistics, monthly Levey-Jenning plots and comment entry for each data point. Recordkeeping of 4 levels for 1,000 tests.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 17 since 1984 ☐ Cost: $1,495-$2,495

COMPLE-SOFTWARE
(division of Comple-Ware)

☐ ELISA-CALC
Transfers data from ELISA plate readers to micros, Lotus 1-2-3. Custom plate map defines contents of wells. Calculates and displays standards or unknowns. Data undergoes linear, log or logit transformations. Picks appropriate points to produce best fit.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 60 since 1983 ☐ Cost: $500

CUSTOM APPLICATION SYSTEMS, INC.

☐ BloodTrak
Hospital transfusion system. Tracks transaction history of blood products from receipt to disposition. Includes Patient, Product, Crossmatch, Issue, Return and Disposition modules and CAP reporting.
IBM PC ☐ 512 KB req. ☐ Copies sold: 5 since 1984

CYBERRESEARCH, INC.

☐ Chromatography Software for GP DAS
Performs data smoothing, peak area, peak start, peak maxima, peak end and splitting fused peaks.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $995

☐ Chromatography Software for Laboratory Automation
Interfaces directly to chromatography set-up or strip chart recorder output of standard chromatography equipment. Designed for production capillary gas or liquid chromatography. Interfaces to Lotus 1-2-3 or BBN Communications RS/1.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $795

☐ Laboratory Automation Software
Controls GPIB instruments and chromatography processing. Interfaces with Lotus 1-2-3 and BBN Communications RS/1. Features process control and forward and inverse FFT and nonlinear curve fitting for up to 10 parameters and 10 independent variables with transcendental functions.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $895

DOWNEAST DIGITAL

☐ LabManager Productivity
Workload and productivity recording system for hospitals and private laboratories. Reports productivity, workload, and revenue charged for current and YTD, with monthly and summary reports.
IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $495

DYNAMEDIX CORP.

☐ DMX-1000
Direct interface for automated blood analyzers, manual data entry, report generator, data storage for 10,000 requisitions, quality control, billing, lab workflow records and analyses.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 50 ☐ Cost: $30,000

ELSEVIER SCIENTIFIC SOFTWARE
(subsidiary of Elsevier Science Publishers)

☐ CHEOPS
Allows user to optimize yield of synthesis, maximize output of production plant, optimize separation factor for two compounds in chromotagraphic separation, composition of polymer, or determination of enzyme in blood plasma.
IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $295

☐ CLUE
Hierarchical clustering. Arranges objects which are characterized by variables into homogenous groups based on similarities and hierarchical relationships. Handles and edits data set. Performs logarithmic or Z-transformation if required. Clustering portion handles objects and variables. Provides graphic output.
IBM PC, AT ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $295

☐ Refvalue
Estimates reference intervals based on unselected lab results. Based on population description by partly overlapping distribution. Available with OS independent graphic routines for DEC terminals VT105/VT125.
IBM PC ☐ 32 KB req. ☐ Introduced: 1984 ☐ Cost: $700

GANTT SYSTEMS, INC.

☐ Lab Manager
Data base for businesslike lab management/administration. Schedules, plans and tracks sample workload, projects, and lab Q.A. Manages inventories. Optimizes use and productivity of resources. Screen/printer graphics. Interacts with spreadsheets, communications, word processors, and Gantt Sample Log.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $395; $40 (templates)

☐ Sample Log
Data base for sample log-in/data entry and reporting. Stores information on source and type of sample, dates logged in/out, test methods, test results, notes, and storage location. Interacts with spreadsheets for calculations and General Lab Manager for scheduling.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $395

HEWLETT-PACKARD CO.

☐ 3055S
Links IBM or HP PC to HP 3421A or HP 3497A data acquisition front end. Checks limits, activates alarms, stores, prints and analyzes data. Shows cause-and-effect relationships graphically. Channel vs. channel, channel vs. time and statistics. Feeds Lotus 1-2-3.
IBM PC, XT, AT ☐ Cost: $400-$500

HEX FF, INC.

☐ LAB/HEX
Handles technical and billing activities. Provides OE, worksheet generation, result entry and reporting, and quality control. Supports direct interfacing to laboratory equipment. AR and electronic billing modules available.
IBM PC, AT, XT ☐ 512 KB req. ☐ Copies sold: 15 since 1982 ☐ Cost: $4,000

INTERACTIVE MICROWARE, INC.

☐ ADAPT
OS and high-level language interface for ADALAB-PC. Control ADALAB-PC hardware instruments. Stores and recalls data from RAM memory. Displays strip charts and scrolls horizontally. Prints summaries. Plots data and labels axes.
IBM PC, XT ☐ 128 KB req.

LABORATORY SYSTEM CONSULTANTS, INC.

☐ Laboratory Administrative Support Module
Client and prospect marketing management, laboratory cost accounting, preventive maintenance, competition analysis, reference laboratory tracking, employee recruitment and tracking. Word processing and business graphics.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 4 since 1984 ☐ Cost: $5,000

LABORATORY SYSTEMS GROUP, INC.

☐ Lab Manager
Production accounting, case scheduling/tracking, AR system. Provides user-definable departments, products and production steps. Prints reports including work tickets, invoices, statements, aged trial balance, material lists, invoice register, case entry register, cash receipts journal, remake report and production reports.
IBM PC, XT, AT ☐ 48 KB req. ☐ Copies sold: 60 since 1982 ☐ Cost: $1,995

LABORATORY TECHNOLOGIES CORP.

☐ LABTECH CHROM
Chromatography analysis program. Accepts raw chromatographic data and method parameters as input and produces chromatographic peak areas and retention times as output. Oriented toward production capillary gas chromatography or liquid chromatography.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $795

☐ LABTECH NOTEBOOK
Integrated package for data acquisition, monitoring and real-time control. Collects raw data and stores it for further analysis.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $895-$1,095

LABSOFT
(division of CRYO Resources, Ltd.)

☐ CounterSoft
Replaces manual cell counting of clicker counter. Bell tone for every 100 cells counted, percent calculations and custom reports of cell counting data.
IBM PC ☐ 64 KB req. ☐ Cost: $500-$2,000

☐ LABNET
Stores, edits and updates patient medical files for up to 126 users. Accommodates clinical and medical history information and indexes patients' files. Patient entry, lab test orders and results, instrument interfacing, claims processing, billing and statistical reports. Generates labels, worksheets and test results.
IBM PC ☐ 64 KB req. ☐ Cost: $2,000 and up

☐ RIA-Soft
Calculation of RIA data from software to laboratory analytical instruments. Effects interfacing of curve fit routine to variety of scintillation and comma counter input formats. Provides statistical information on curve fit and variance of results. Constructs dose-displacement curve.
IBM PC ☐ 64 KB req. ☐ Cost: $500-$2,000

☐ TimerSoft
Provides simultaneous and independent timing of multi-step tasks on one screen.
IBM PC ☐ 64 KB req. ☐ Cost: $500-$2,000

LIFE SCIENCE ASSOCIATES

☐ PC/LAB
Event recording, A/D recording, oscilloscope, tachistoscope and data plots for research labs.
IBM PC ☐ 256 KB req. ☐ Cost: $345

☐ Pharm
Pharamacological research calculations package with 33 computational and statistical procedures for drug testing. Provides against antagonists, biochemical and pharmacokinetic principles, statistical analysis and statistical tables.
IBM PC ☐ 48 KB req. ☐ Copies sold: 480 since 1981 ☐ Cost: $274

☐ Pharm/DAS
Pharmacological data acquisition. Data recording and experimental control of Pharm experiments using isolated tissue preparations. Calibration/equilibration, data acquisition/process control and graphing dose-response function.
IBM PC ☐ 256 KB req. ☐ Cost: $235

MEDICAL SOFTWARE CONSORTIUM

☐ Blood Gas Consultant
Arterial blood gas interpreter. User inputs patient's name, ID number, pH, p02, pC02, Fi02 and body temperature. Produces acid-base analysis and respiratory interpretation. Stores values for later reference. Performs comparison evaluation on chronic respiratory disease patients.
IBM PC ☐ 128 KB req. ☐ Cost: $195

☐ Radiology Consultant
User selects procedure and enters patient's age, sex, height and weight. Calculates ideal exposure and multiple alternative exposures for numerous x-ray machines. Includes over 50 procedures. Med-res graphics shows patient and beam positions. Available in standard screen hi-speed and rare earth screen versions.
IBM PC ☐ 48 KB req. ☐ Cost: $295

MICROCOMPUTER SPECIALISTS

☐ PHARM/PCS
Provides 33 computational/statistical procedures to evaluate drug safety in experiments on animals and humans. Designed for pharmaceutical industry, medical research and pharmacology students.
IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 3,600 since 1981 ☐ Cost: $250

RADIAN CORP.

☐ SAM (Sample and Analysis Management)
Handles and controls information generated and used in laboratories. Tracking, scheduling, reporting and statistical analysis of lab results. Produces financial reports.
IBM PC ☐ 128 KB req. ☐ Copies sold: 30 since 1985 ☐ Cost: $3,995-$14,995

ROUSSI CONSULTING

☐ Coulter Data Transfer
Transfers particle histogram data collected by Coulter Model-ZM Counting Stand and C-256 Multi-channel Analyzer to IBM PC for display, storage, statistics calculation or processing. Statistics on data include mean, variance, median, median/mean, mode, skewness and kurtosis. Compares files using Z-test and P-values.
IBM PC ☐ 128 KB req. ☐ Copies sold: 5 since 1985 ☐ Cost: $1,700

SCIENTIFIC SOFTWARE

☐ LAB Management System
Data base for analytical chemistry laboratory. Search, sort, trend analysis, table printing and report generation. Quality control laboratory in pharmaceutical, cosmetic, food, petroleum and clinical chemistry laboratory.
IBM PC ☐ 256 KB req. ☐ Cost: $4,000

SOFT COMPUTER CONSULTANTS

☐ Softlab
AR, billing for insurance, Medicaid, Medicare and doctors. Supports up to 100 terminals. Includes diskette submission of claims.
IBM PC ☐ 512 KB req. ☐ Copies sold: 15 since 1979

TELE VEND, INC.

☐ Med-Lab
Tracks AR, sends statements, tracks test results and holds test result history. Reports results or tests, aging of invoices and statements.
IBM XT, AT ☐ 256 KB req. ☐ Copies sold: 12 since 1984 ☐ Cost: $2,300

TRINITY COMPUTING SYSTEMS, INC.

☐ Cath Lab Support System
Reports include pre-medication, technique cardiac rhythm, oxygen consumption/contents/saturation, blood gas results, cardiac output calculations, pressure (MM HG), blood flows, gradients (MM HG) and shunts (L/MIN).
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 40 since 1982

☐ Du Pont's Micro Radiology Manager
Maintains patient index, provides order processing, film tracking and results reporting. Interfaces to mainframe.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 16 since 1984

☐ Electrophysiology Support System
Addresses Basic Interval, Incremental Atrial Pacing, Sinoatrial Conduction Time, Tachycardin Identification, A to V/V to A Conduction Time, ERP and FRP, and plans call for Cardiac Mapping.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2 since 1982

☐ Pacemaker Followup System
Detailed record for each patient with data on implants, reprogramming and follow-up activities. Manipulates information on general pacemaker inventory and specifications.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 15 since 1982

WHELAN ASSOCIATES, INC.

☐ Dentalab
Schedules case, generates work ticket, adds case to location file, produces invoice, applies invoice to patient statement and holds case in open/work order. Prints doctor's instructions of care on work tickets. Prints doctor's next prescription bank and shipping label.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1979 ☐ Cost: $1,000-$5,000

WILEY PROFESSIONAL SOFTWARE
(division of John Wiley and Sons, Inc.)

☐ Labsoft
Laboratory instrumentation control and monitoring system. Accesses capabilities of IBM Data Acquisitions and Control Adapter. Supports chromatography, spectroscopy, colorimetry, and thermal analysis.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $350

MANUFACTURING— BILL OF MATERIALS

AMERICAN BUSINESS COMPUTER

☐ MFG Bill of Materials Reports
Jobs and materials documents system. Provides reference documents and shop paper for initiating specific jobs and for verifying material availability. Provides where used reports. Uses reports to initiate specific jobs on shop floor.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 60 since 1976 ☐ Cost: $1,500

APPLICATIONS SYSTEMS GROUP, INC.

☐ Bill of Materials
Calculates quantity to build based on on-hand/on-order quarts. Pulls from inventory as BOMs are built. Updates inventory due to sales, orders, receipts and returns. Reports include physical inventory form and cost vs. price analysis. Requires Inventory system.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 15 since 1981 ☐ Cost: $595

CERTIFLEX SYSTEMS

☐ Bill Of Materials Inventory
Handles goods, assemblies and subassemblies. Records production and disassembly. Includes production and usage reports.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 200 since 1980 ☐ Cost: $895

CHARTERHOUSE SOFTWARE CORP.

☐ Manufacturing-Aide
Manufacturing IC package. Features a system for BOM providing ten level indentation, product cost reporting, status of commitment of finished goods and/or component inventories. Interfaces with Charterhouse's OE and AR and Billing Systems.
IBM PC ☐ 256 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $1,000

COMPUMAX ASSOCIATES, INC.

☐ Bill of Materials
BOM/manufacturing processor for small manufacturers. Handles IC and MRP. Maintains stock, BOM and scheduling files. Updates inventory by issue/receive transactions or by net-out after program run. Journal file posted to Compumax's GL programs Maxiledger or Microledger.
IBM PC ☐ 64 KB req. ☐ Copies sold: 500 since 1981 ☐ Cost: $350

COMPUTER APPLICATION SPECIALISTS, INC.

☐ Bill of Materials
BOM for small firms. Maintains inventory file, standard labor entry, entry and editing of inventory receivings. Backorder report by item/customer. Inventory stock status. Purchase advice. Various inventory parts list reports. Interfaces with AR, OE and purchasing control.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 20 since 1981 ☐ Cost: $1,000

COMPUTER COVENANT CORP.

☐ Bill of Materials
Multi-level BOM and routing control system.
IBM PC ☐ 30 KB req. ☐ Copies sold: 30 since 1978 ☐ Cost: $2,000

CORPORATE CONSULTING CO.

☐ Manufacturer's Bill of Material Invoicing and Inventory Control
Customer/item sales history by month. Up to 20 raw materials and 99 finished good items. Direct invoicing of raw materials. IC supports stock status reports, product category groups, last or average cost, inventory valuation and physical inventory counts. Sales and profit analysis.
IBM PC ☐ 256 KB req. ☐ Copies sold: 20 since 1979 ☐ Cost: $2,875 (without AR); $3,875 (with AR)

CYCLO-TRONICS, INC.

☐ Inventory - Bill of Material Program For Manufacturing
Supports 99 finished products with up to 400 part numbers each.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1982 ☐ Cost: $695

EVOLUTION 1, INC.

☐ Bill of Materials Processor
Establishes, maintains, and retrieves BOM information. Produces single and multi-level BOM, single and multi-level where-used listings, summarized bills, pre-kit analysis, and a costed BOM report.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1977

FLAGSHIP TECHNOLOGY, INC.

☐ Bill of Materials
Component of INMASS. Tracks BOM structure, executes multiple-part inventory transactions and performs requirements reporting. Updates cost of assemblies to reflect component cost changes. Encompasses labor, overhead and other non-material costs. Maintains status of jobs in progress. Produces requirements and where-used reports. Used with MRP, Job Cost/WIP modules.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1980 ☐ Cost: $600

HAI SOFTWARE, INC.

☐ HAI*LINE Manufacturing
Integrates with HAI*LINE Inventory. Provides up to ten subassembly levels. Updates costs from component costs. Reports include produce cost, where-used, production list, shortage, and material requirements. Provides full audit. Available in foreign languages.
IBM PC ☐ 128 KB req. ☐ Copies sold: 8,000 since 1981 ☐ Cost: $495

HELMSMAN SYSTEMS, INC.

☐ H-BOMM
BOM management with part number control. Spreadsheet capability. Includes engineering change control with date effectivity built in. Tracks and controls drawings. Generates reports. LAN compatible.
IBM PC ☐ 512 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $2,495

INFISY SYSTEMS, INC.

☐ Bill-of-Material
Multi-level BOM system. Generates single-level, multi-level and where used reports and screens. Integrates with InFiSy inventory routing, scheduling, job cost and OE.
IBM PC ☐ 128 KB req.

INFOSOURCE MANAGEMENT, INC.

☐ JMACS-Bill of Materials
Maintains on-hand items. Reports show actual scrap and waste percentages greater than standard. Multiple level bill provides material structure for MRP explosion. Shop routings show progression of labor for finished item.
IBM PC, AT ☐ 512 KB req.

LOGICAL DESIGN CORP.

☐ Bill of Materials
Component of LDC's Manufacturing Management System. Maintains parts list/item master, product structure, operations, routings, machines, work center, material classification, inventory and vendor. Parts explosion reporting. Parts defined as finished, component, user-defined. Maintains MTD and YTD.
IBM PC ☐ Copies sold: 75 since 1981 ☐ Cost: $2,450-$6,800

MCBA

☐ BOMP (Bill of Materials Processor)
Allows up to 12 levels of BOM for engineering, product costing, purchasing and manufacturing. Single-level, indented and summarized inquiries. User-assigned component sequences. Specifies scrap/shrinkage. Obsolete, forecasted, planned and modular bills.
IBM PC, XT, AT ☐ 96 KB req. ☐ Copies sold: 35 since 1980 ☐ Cost: $2,000-$9,500

☐ Micro Level II Manufacturing System - Bill of Material Processor
IBM PC, XT, AT ☐ Cost: $2,000-$6,000

MICROPLUS SOFTWARE, INC.

☐ Bill of Materials
Tracks assembled/unassembled inventory items. Works with Accounting Plus Inventory by adjusting quantities shown on hand when using unassembled parts. Calculates cost of assembled item based on components cost. Prints/tracks production orders. Requires Accounting Plus Inventory module.
IBM PC ☐ Cost: $495

MIDWEST COMPUTER CENTER CO.

☐ BOMP (Bill of Materials Processor)
Requires MCC's Inventory Management System. MRP report with quantity and cost of each required part, BOM using part, total cost to build in stock, total labor, hours required and cost. Additional disks for multiple lists.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 300 since 1979 ☐ Cost: $395

MINI-MICRO BUSINESS SYSTEMS

☐ Bill of Materials
Product explosion/implosion.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 1,986 since 1978 ☐ Cost: $1,495

MMS INTERNATIONAL

☐ MCS-3 Inventory Control/Bill of Materials
Item Master-File, BOM, Stock Room Detail, Vendor Master, Shop Order, PO Printing and Special Report Menu module.
IBM PC ☐ 64 KB req. ☐ Copies sold: 600 since 1979 ☐ Cost: $2,500

OCCUPATIONAL COMPUTING CO., INC.

☐ Manufacturing-Aide
Manfacturing IC package. Provides ten level indentation, product cost reporting, status of commitment of finished goods and/or component inventories. Interfaces with OCC's OE and AR and Billing Systems.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 600 since 1979 ☐ Cost: $1,000

SDM-SYSTEMATICS, INC.

☐ Boss Inventory (Bill of Materials)
Builds finished part in inventory form existing subcomponents. Provides costing runs for price changes. Allows increased/decreased cost of finished goods, minimum/maximum level tracking, interfaces to OE and AR, parts explosion and 12 character part number.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 168 since 1982 ☐ Cost: $1,595-$2,995

C. R. SMOLIN, INC.

☐ BMP (Bill of Materials Plus)
BOMP and engineering documentation control. Supports multiple data bases of up to 32,000 parts and includes costing and cost roll-up features. Reports which contain sort and data selection capabilities include part master, single level, indented and summary BOM.
IBM PC ☐ 128 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $995

SOLVATION, INC.

☐ Bill of Materials
BOM for small manufacturing companies. Integrates with other Solvation modules. Single- or multi-user.
IBM PC ☐ 128 KB req. ☐ Copies sold: 4 since 1983 ☐ Cost: $1,195-$1,995

SYNERGISTIC SYSTEMS, INC.

☐ Manufacturer's Inventory Management System
Multi-departmental. Multi-level password security. Handles multiple accounting methods. Generates audit trail, part and job history, BOM, ABC classification and cyclic inventory report. What-if analysis and PO processing supported. Multi-level explosion/implosion. Six prices/part. Tracks shortages.
IBM PC ☐ 64 KB req. ☐ Copies sold: 14 since 1983 ☐ Cost: $2,000-$7,000

TWIN OAKS, INC.

☐ mrp2- Bill of Materials
Supports 20 levels of BOMs. Secondary Description module appends descriptive text to the primary description. Engineering Change module controls the starting and stopping of BOM or router.
IBM PC, XT ☐ 192 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $1,750-$3,050

WILEY PROFESSIONAL SOFTWARE

(division of John Wiley and Sons, Inc.)
☐ Bill of Materials Plus
Evaluates status of materials in product manufacturing. Tracks all material used in stages of product manufacturing. Creates a computer model of new products from the top assembly to the purchase parts.
IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $995

WOODBURY COMPUTER ASSOCIATES, INC.

☐ Bill of Materials
Integrates with MBSI accounting system. Multi-level allows product simulations, work order costing, outside labor, and service costs, work order adjustments and unit of measure maintenance.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1 since 1984 ☐ Cost: $2,500

MANUFACTURING— COMPUTER-AIDED MANUFACTURING

ANALOG PRECISION, INC.

☐ Coordinate Measuring Machine
Translates coordinate to parts axes. Handles three axis translations and rotations to allow inspection of complex mechanical parts. Calculates flatness, roundness, bore axis and bolt circle parameters and compares results with standard descriptions of each part.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 2 since 1978 ☐ Cost: $5,000

APPLICON

(a Schlumberger Co.)
☐ Complex Surface Machining
3D surface design and manufacturing capabilities based on Applicon's EQINOX geometric modeler.
IBM PC

☐ Editor
Geometric editor for 2D and 3D engineering design, drafting and manufacturing.
IBM PC

☐ Sheet Metal Design and Fabrication
Graphics system for designing and machining sheet metal parts. Creates fabrication designs in 3D views. Performs bend calculations.
IBM PC

ATE ASSOCIATES

☐ Testmate I
ATLAS compiler for ATE. Allows user customization to desired environment. Provides the ability to rehost, retarget and reconfigure.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 7 since 1978 ☐ Cost: $25,000

AUTO-TROL TECHNOLOGY CORP.

☐ Series 7000 Advanced Graphics Software
Geometric modeling. Develops 3D product models. Calculates volumetrics and mass properties including objects bounded by arbitrary surfaces. Calculates sections and volumes about various origins and vector orientations. Saves properties in external text file or summed in stack type calculator.
IBM PC, AT

CADAM, INC.

☐ Interactive Design
Covers manufacturing, electrical, architectural, engineering and construction design applications. 3D Interactive, Interactive Solids Design, 3D Piping, NC enhancements, Design/Build/Manage, Facilities Management and Interactive Prance modules available.
IBM PC, AT, RT PC

CHEMPRO DATA SCIENCES CORP.

☐ Rapidcost
CAM estimating system. Provides cost, time and routing sheet capability.
IBM PC, XT, AT ☐ Cost: $895-$4,125

COMPUTER DETAILING CORP.

☐ Beams and Columns
Sheetmetal fabrication. System of menu, macros and micro drawings for detailing structural steel with AutoCAD. User can modify and add menus.
IBM PC ☐ 640 KB req. ☐ Copies sold: 45 since 1986 ☐ Cost: $1,800

CONCEPT TECHNOLOGIES, INC.

☐ IBM CADAM Interface
IBM PC, XT, AT

HEWLETT-PACKARD CO.

☐ PC Instruments
Allows an HP or IBM PC to control eight HP instrument modules for test and measurement tasks. Performs instrument control and business applications.
IBM PC

ITMI (INDUSTRIAL TECHNOLOGY AND MACHINE INTELLIGENCE)

☐ LAIMAN
Interactive machine vision development environment. Includes 17 modules to perform feature extraction and analysis. Handles lines, segments, angles, arcs of circles, axis of inertia and bounding rectangle.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $4,000-$10,000

☐ LM-PC
Robot independent robot programming language. Pascal-like. Uses frames to model Cartesian space. Allows multiple robot control, parallelisms and advanced robot features.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 5 since 1984 ☐ Cost: $15,000

LOVELACE LAWRENCE & CO., INC.

☐ CAPP-CODE Interactive Process Planning and FMS Planner
Interactive planning files provide total recall retrieval of existing methods information for all process planners to insure consistent planning and standard routings. Standard plans and routings provide families of parts for FMS designs.
IBM PC ☐ Copies sold: 40 since 1970 ☐ Cost: $15,000

☐ UNICODE - CAM Data Base for Group Technology and FMS
Provides classified data base for all parts and assemblies. Uniform family codes are developed to establish group technology capabilities in CAM applications such as MRP and FMS studies.
IBM PC ☐ Copies sold: 150 since 1979 ☐ Cost: $15,000

PACKAGED COMMUNICATIONS TECHNOLOGY, INC.

☐ PCIM
Design, drafting, analysis and numerical control. Supports 2D/3D drafting and design with NC for lathe and milling operations. Simultaneous multiple views and customer report.
IBM PC, AT ☐ 1,100 KB req. ☐ Introduced: 1984 ☐ Cost: $4,500-$12,000

RENISHAW-MAE

☐ MAECAM
Graphical NC programming system. Includes graphical verification of geometry, tool and tool path to reduce prove-out time, and macro facility. Prints tooling and set-up information. For turning, milling, drilling, flame-cutting, laser cutting, engraving and punch nibbling machines.
IBM XT, AT ☐ 512 KB req. ☐ Copies sold: 250 since 1981 ☐ Cost: $7,000-$15,000

TIPNIS, INC.

☐ Computer-Aided Manufacturing Systems
CAM for manufacturing/production planning and simulation. Modules include Group Tech, Job Shop, Layout, Machinability, ROI and Simulation.
IBM PC ☐ Copies sold: 40 since 1980

T & W SYSTEMS, INC.

☐ CAM Connection

CAD/CAM. Retrieves and orders part geometry information from a VersaCAD drawing, then converts it into numerical data transferred to Point Control's smartSHAPE graphics system. Bypasses duplication by making a direct connection between the drawing, through smartSHAPE to a CNC machine.

IBM PC, XT ☐ 384 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $750

MANUFACTURING—MATERIAL REQUIREMENTS

AAA TECHNOLOGY & SPECIALTIES CO., INC.

☐ Matecon

Tracks materials or equipment from multiple sources to multiple distribution points. User-defined accounting structure, associated documents, responsible parties and materials movement.

IBM PC ☐ 256 KB req. ☐ Copies sold: 2 since 1983

AFTEC, INC.

☐ Pro-III

OE invoicing, sales analysis, IC, purchasing, engineering, BOM, AP, AR, GL, payroll and financial reporting for manufacturers and distributors. Supports make-to-stock, make-to-order and engineer-to-order for discrete products. Handles multiple location/currency distributors. Optional lot, location and serial control.

IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 130 since 1978 ☐ Cost: $10,000-$20,000

A & M SOFTWARE

☐ MFGPLAN

Determines how plants should buy materials, manufacture, ship, and set selling prices in a way to maximize profit.

IBM PC ☐ 64 KB req. ☐ Cost: $400

AMERICAN BUSINESS COMPUTER

☐ MFG Job Entry

Product, MRP and inventory file records. Enters raw material quantities and production operations. Relates billing addresses to inventory. Specifies due dates and product quantities. Allocates finished stock to specific jobs. Includes ABC's MFG IC system.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 60 since 1976 ☐ Cost: $3,000

☐ MFG MRP Reports

Identifies requirements and expected shortages for materials based on release quantities, due dates, end item fabrication lead time, BOM, raw material quantities on hand, and materials on order. Traces records for selected materials during extract processing.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 60 since 1976 ☐ Cost: $1,500

COMMAND LINE CORP.

☐ MRP System

Includes interactive IC, BOM, purchasing, cash flow and labor requirements forecasting. Forecasts ahead from 1 job to 12 months of operations and reports past 12 months of manufacturing operations. Bar coding and LAN capabilities available.

IBM PC

COMPASS

☐ MRP

Calculates material requirements based on demand required to meet master schedule. Compares material requirement with quantity on hand in inventory and identifies shortages. Interfaces with Inventory and PO modules.

IBM PC, AT

COMPUMAX ASSOCIATES, INC.

☐ MRP-II Manufacturing Resource Planning

Includes Microbomp. Computes planning horizon for up to 30 months based on inventory master, product structure and schedule files. Multiple report printing. Generates pick lists and floor orders. Produces POs, shipping orders and invoices. Posts debit/credit entries to Microledger or Maxiledger GL.

IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $650-$1,000

COMPUTER COVENANT CORP.

☐ Material Requirements Planning

Timed-phased materials planning system.

IBM PC ☐ 30 KB req. ☐ Copies sold: 3 since 1982 ☐ Cost: $1,500

COMPUTERLINE

☐ Plantrac-M

Materials management system. Schedules and expedites preproduction requirements to meet start dates calculated by Plantrac.

IBM PC, XT, AT ☐ Cost: $1,300

EVOLUTION 1, INC.

☐ Material Requirements Planning

Maintains fully pegged requirements data base. Updates by net-change interactive mode, net-batch mode and regeneration. Interfaces with EDS, OE, IC, Purchasing and BOM systems.

IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1977

FLAGSHIP TECHNOLOGY, INC.

☐ Material Requirements Planning

Controls inventory balances, POs and production. Reports projected gross requirements along with scheduled receipts, projected balance on hand, planned receipts and planned order releases. Projects depletion and suggests re-order points. Requires MC Software's Inventory and BOM systems.

IBM PC ☐ 256 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $600

BERNARD GIFFLER ASSOCIATES

☐ MR2Ps

Maintains and updates inventory items. Explodes nets and setback schedules of material requirements. Creates and maintains BOM within product structure. Monitors status of order not completed. Regenerates end product requirements and corrects changed order.

IBM PC ☐ 128 KB req. ☐ Introduced: 1982 ☐ Cost: $10,000

HELMSMAN SYSTEMS, INC.

☐ H-MRP

Supports small-medium manufacturing company. Includes H-CHAMP, Applications Environment, H-BOMM, BOM Manager, H-BUY, Purchasing and Receiving, H-STORE, Inventory Management and Stores, H-MAKE, WIP Management, H-PLAN, Master Schedule, Planner Controls and MRP.

IBM PC ☐ 512 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $9,995

INSTITUTE OF INDUSTRIAL ENGINEERS

☐ PLant Layout

From/to chart generator tallies number of times product is exchanged between departments. Micro-Craft produces block plan for suboptimal departmental arrangement for material handling costs. Determines optimum facility location. Considers layout evaluation.

IBM PC ☐ 48 KB req. ☐ Copies sold: 301 since 1986 ☐ Cost: $175

C. F. KERCHNER & ASSOCIATES, INC.

☐ Manufacturing Inventory Control with MRP & BOMP

Accommodates finished goods, subassembly, assembly and parts. Processes BOM and provides material requirements. Includes planning modules. Integrates parts, production schedule and purchasing information.

IBM PC, XT ☐ 48 KB req. ☐ Copies sold: 100 since 1980 ☐ Cost: $300

LOVELACE LAWRENCE & CO., INC.

☐ Classcode - Classification and Coding For MRP/GT

Improves productivity of MRP systems and traditional shop scheduling systems by providing combined-lot batch processing of similar parts and assemblies. Analog codes provide smart part numbers based on families of parts.

IBM PC ☐ Copies sold: 100 since 1979 ☐ Cost: $5,000

M & D SYSTEMS, INC.

☐ MYTE MYKE Material Requirements Planning

Determines gross and net raw material requirements by time based on standard cost module. Satisfies departmental, divisional or remote site requirements. Supports single and multi-user environments.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $795-$2,295

MMS INTERNATIONAL

☐ MCS-3 Materials Requirements Planning

Module of MCS-3. Includes BOM processor, master production schedule, MRP reports by item, MPS scheduling, demand and independent demand items and MPS groups updates.

IBM PC ☐ 64 KB req. ☐ Copies sold: 600 since 1980 ☐ Cost: $2,500

OPEN SYSTEMS, INC.

(subsidiary of Uccel Corp.)

☐ Material Management

Schedules and tracks components from raw materials to finished goods. Prints product status reports, parts requisition production schedules, inventory, costed BOM, common-parts BOM work-in-process report, manufacturing history report and work center lists. Explodes product requirements.

IBM PC, AT, XT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $895

PPL (PACKAGE PROGRAMS OF LONDON)

☐ Partplan

Materials Control component of Uniplan. Sales order, PO and workorder processing, requirements planning, product costing and master manufacturing file management. Password, access level and marker access security. Multiple company support.

IBM PC

C. R. SMOLIN, INC.

☐ E-Z-MRP

Runs with C.R. Smolin's BMP.

IBM PC ☐ 128 KB req. ☐ Copies sold: 30 since 1985 ☐ Cost: $1,495

SOLVATION, INC.

☐ MRP (Manufacturing Requirements Planning)

Time phased material availability. Recommends order rescheduling and new buys. Integrates with other Solvation modules.

IBM PC ☐ 128 KB req.

SOURCEMATE INFORMATION SYSTEMS

☐ AccountMate III - Manufacturing Inventory Control

Tracks finished goods and raw materials. Creates work orders, POs and invoices. Tracks receivables and prints or displays reports. User sets formulas for finished goods. Warns when items ordered exceed raw materials required. Contains billing invoice/AR and PO.

IBM PC ☐ 256 KB req. ☐ Copies sold: 70 since 1986 ☐ Cost: $995-$1,195

TWIN OAKS, INC.

☐ mrp2- Item Master & Control File
Establishes item records and interacts with data base records. Product family code used for report classification. Control code can be master scheduled, material planning, reorders point or non-controlled. Procurement code can be purchased, manufactured, phantom or descriptive. Interfaces with mrp2 modules.
IBM PC, XT ☐ 192 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $875

☐ mrp2- Material Planning
Generates and reschedules planned orders. Provides single level pegging and master schedule report. Features daily, net change with optional regeneration. Supports 3-year, 1,000 day shop calender.
IBM PC, XT ☐ 192 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $6,400-$8,295

VIDEO & COMPUTER SYSTEMS, INC.

☐ MQRS (Manufacturing Quality Reporting System)
Summarizes unit yields by station and defect percent contribution. Reports operator percent contribution to each defect.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 12 since 1984 ☐ Cost: $595

☐ SPARS (Supplier Product Assurance Reporting System)
Analyzes receiving lot quality. Tracks lot status, MRB activity, detailed vendor quality ratings and problem part numbers. Handles large volume of lots and different commodities. Generates reports. Update, inquiry and report options available.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 30 since 1978 ☐ Cost: $595

MANUFACTURING— NUMERICAL CONTROL

ACCUGRAPH CORP.

☐ multiCUT
CNC metal cutting. Generates required code for X-Y cutting table. Sends CNC code directly to cutting table without using external post processor.
IBM AT ☐ 512 KB req. ☐ Copies sold: 13 since 1984 ☐ Cost: $5,000

ADVANCED SYSTEMS CONSULTANTS

☐ ORACLS/PC (Optimal Regulator Algorithms for the Control of Linear Systems)
Numerical routines for performing linear optimal control system analysis. Utilizes EISPACK routines for eigenanalysis.
IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $295

APPLICON

(a Schlumberger Co.)

☐ Mechanical CAD/CAM-PC
Supports 2D design and drafting and NC programming. Compact II programming applications and communications available.
IBM PC

☐ NC Drill
Extracts and processes generic printed wiring board drill data created using Applicon's Interactive Layout Editor. Generates output for various NC drilling machines.
IBM PC

☐ NC Programming
Numerical control programming for manufacturing engineers. Combines interactive graphics processing with advanced programming features.
IBM PC

COMPREP CORP.

☐ PLC-Contour
Provides graphics geometry, tool motion generator with programming. Allows three axis plotting. Includes mirroring, variables, step and respect, user canned cycles, pocketing, boss avoidance, rotation and tab-cyl curve smoothing.
IBM PC ☐ 256 KB req. ☐ Copies sold: 200 since 1982 ☐ Cost: $5,500

☐ PLC-Microcam
Provides digitizer design capabilities and graphics/text plotting. Includes NC program preparation for designing machinable parts.
IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $7,995

COMPUTERVISION CORP.

☐ Personal Machinist
Design and manufacturing system. Provides NC programming capabilities for axis milling machines, lathes, punch presses, EDM and flame/laser cutting equipment.
IBM PC

DATAMAT PROGRAMMING SYSTEMS, INC.

☐ Datamat I
Computes geometry locations and programs machine tools from blue prints. Displays as it is defined. Output includes paper tape, floppy disk or direct transmission.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 400 since 1977 ☐ Cost: $8,500

☐ Datamat II
Computes geometry locations and programs machine tools from blueprints. Displays geometry as it is defined. Output is paper tape, floppy disk or direct transmission.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 300 since 1977 ☐ Cost: $12,000

ESAB NORTH AMERICA, INC.

☐ CAPP II
Computer-assisted parts programming. Leads operator step-by-step through the shape cutter programming process including design drawing, correction, calculations, and generations of program code for tool control equipment.
IBM PC ☐ 512 KB req. ☐ Copies sold: 40 since 1983

ICAM TECHNOLOGIES CORP.

☐ CAM.CAL1
Introductory APT graphics tutorial. Includes an engineering drawing with its part program. Stresses the relationship between the part geometry, tool movement and APT statements needed to manufacture the part.
IBM PC, XT, AT ☐ 48 KB req. ☐ Introduced: 1983 ☐ Cost: $1,250

☐ CAM.CAL2
Advanced APT graphics tutorial covering the 3D aspects of geometry and motions. Utilizes CAL techniques to establish the relationships between part geometry, tool motions/instructions and APT language statements.
IBM PC ☐ 1,000 KB req. ☐ Introduced: 1983 ☐ Cost: $2,750

☐ CAM.FIVE
Includes CAM.CAL2, CMA.APT.SURF, CAM.POST, CAM.PLOT, and CAM.PUNCH. Five axis APT language processor. Teaches APT programming and allows each user to program and verify parts. Covers non-analytical, 3D, sculptured surfaces and conventional geometric surfaces.
IBM PC ☐ 1,000 KB req. ☐ Introduced: 1983 ☐ Cost: $12,950 and up

☐ CAM.PUNCH
Reverse/conventional NC tape punch processing and management system. Offers ASCII and EIA conversion features and an editor permitting manual tape editing. Offers direct access to a main library of system and foreign tapes.
IBM PC ☐ 100 KB req. ☐ Introduced: 1983 ☐ Cost: $690 and up

MASTER NUMERICAL

☐ EZNC
NC machine programming language.
IBM PC, AT ☐ 64 KB req. ☐ Copies sold: 13 since 1979 ☐ Cost: $6,500

METCUT RESEARCH ASSOCIATES, INC.

☐ CutData
Data base with recommended cutting speeds and rates for machinery industry. Provides 84,000 recommendations covering 40 machining operations and 1,500 materials. Calculations include time estimations, horsepower estimations and unit conversions.
IBM PC ☐ Cost: $895

MICRO ENGINEERING SYSTEMS, INC.

☐ MSE (Machine Shop Estimating)
Establishes shop estimating system. Includes screw machines, CNC turning, drilling, broaching, machining center, grinding, milling, honing, turret lathe and gear machine. Handles production sawing, thread rolling/tapping, lapping, boring, gun drilling and straightening.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $4,995-$9,995

NATIONAL NUMERICAL CONTROL APPLICATIONS, INC. (NN/CA)

☐ CAPPS (Computer Aided Part-Programming System)
Supports milling and turning requirements using machine shop language. Includes two levels. Group I stores data in files translated into machine language. Group II provides 200 subroutines based on APT requiring post-processing.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 8 since 1981 ☐ Cost: $1,000

☐ NCAPT3D
Handles tape punch/read, HP 7475A or similar plotting, tape backplotting, printing, accessing APT compiler of post-processor, resequencing machine tapes, formatting CL file data into NC blocks. Addresses X, Y, Z codes, circular interpolation, block sequencing, feedrates, rapid or linear codes (G00 or G01).
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 20 since 1981 ☐ Cost: $10,350

☐ NCEDIT
Creates NC part programs. Uses manual programming techniques with text editor. Resequences N block numbers, character string search, line insert/delete. Reads/punches ASCII or EIA tapes. Reformats ASCII to EIA, or EIA to ASCII. Provides machine back-plotting.
IBM PC ☐ 512 KB req. ☐ Copies sold: 15 since 1981 ☐ Cost: $695

PERSONAL CAD SYSTEMS, INC. (P-CAD)

☐ PC-Drill
Outputs data in format that can be read and utilized for programming NC drilling machines in manufacturing.
IBM PC

PMX, INC.

☐ XL/NC
NC system for mills, lathes, grinders and wire EDM machines. Parts are described in sections so that each pattern, contour, or packet may be mirrored, scaled, rotated, reversed, and roughed-out independently. Extended capabilities for gears, curve-fairing, blend radii, automatic roughing, and variables with trig and math functions provided.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 450 since 1982 ☐ Cost: $10,000

RWT CORP.

☐ NCNET
Factory networking of NC machine tools and host computer. Provides collection of NC data for management reporting.
IBM PC ☐ 256 KB req. ☐ Copies sold: 2,000 since 1978 ☐ Cost: $2,000

SOLUTIONWARE CORP.

☐ Geopath Lathe

Provides lathe contouring, roughing and threading. Provides custom post processors or universal lathe tailored to specific NC/CNC machines. Lathe Universal allows 99 user-designed post processors.

IBM PC ☐ 64 KB req. ☐ Copies sold: 150 since 1980 ☐ Cost: $4,500

☐ Geopath Mills

Contouring, smoothing, cleaning, pattern manipulation, canned cycles and special routines. Supports laser, plasma and wire EDM cutters. Provides custom or Mill Universal post processors. Mill Universal allows 99 user-designed post processors. Runs prompted and batch modes.

IBM PC ☐ 64 KB req. ☐ Copies sold: 300 since 1980 ☐ Cost: $5,000

STOCHOS, INC.

☐ MICRO/NC

Geometrical programming language for lathes, milling machines and punch presses. Includes definitions for lines, circles, points and paths on 2.5 axis. Color graphics output to screen, printer or plotter. Automatic or manual tool path generation.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 3 since 1983 ☐ Cost: $3,750

U.S. DATA CORP.

☐ Dynamic Color Graphics

Add-on to FactoryLink. Consists of graphics editor for creating background displays, symbols and overlays and animation editor for adding dynamic capability to background displays and operator input function.

IBM PC, XT, AT, Industrial Computer Model 5531, 5532, 7531, 7532 ☐ Cost: $1,750

☐ FactoryLink

Industrial information management. Provides real-time color graphics including process and machine simulation, PID displays, alarms and alarm management, trending, data logging, file storage computation and communications between types of monitoring and control equipment. Novell NetWare compatible.

IBM PC, XT, AT, Industrial Computer Model 5531, 5532, 7531, 7532 ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $2,750

MANUFACTURING—PROCESS CONTROL

ACUREX CORP.

Autodata Division

☐ AutoMaster

Industrial process and laboratory data acquisition system. User can create and edit data acquisition programs. Provides data retrieval and data file management. Allows communication between PC and Acurex's data loggers and measurement front ends. Converts data to Lotus and BASIC files.

IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 100 since 1986 ☐ Cost: $495

ALLSTON GROUP

☐ PCL Document System

Process control lists shows current revisions of material and process specifications used on product. Tracks revision changes, maintains change history and controls distribution. Handles numerous projects each with maximum of 3 levels of document hierarchy.

IBM PC, AT, XT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $3,000

AMERICAN MULTIPLEX SYSTEMS

☐ Facilitator and Graphic Alarm

IBM PC, XT, AT, 5531 ☐ 256 KB req. ☐ Copies sold: 37 since 1980 ☐ Cost: $7,500

APPLIED COMPUTER SOLUTIONS, INC.

☐ SQC

Statistical quality control and process control. Provides normal and non-normal data analysis, histograms, X-bar, range, cumulative probability, P-chart, U-chart, C-chart and PN-chart capabilities. Features normality check, hilo charts, stats block, including actual, percent high, percent low, skewness, kurtosis, and average standard deviation.

IBM PC ☐ 256 KB req. ☐ Copies sold: 500 since 1982 ☐ Cost: $500

☐ VSAS Tolerance Analysis

3D simulation models include geometry, tolerance, and variation due to assembly operations based on user-specified tolerances. Predicts design tolerances and manufacturing variation using a statistical simulation of a production run. Accepts CAD parts geometry.

IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 110 since 1983 ☐ Cost: $2,500

BARBER-COLEMAN CO.

☐ PC-Trol

Programs and supervises 60 Barber-Coleman 560 Series temperature controllers equipped with digital interface. Verifies system integrity. Modules include Ramp/Soak Recipe, Alarm Summary Log, Data Acquisitions and Reports, and Communications.

IBM PC, XT

BETA TECH, INC.

☐ SPC/SQC Support Software System

Supports storage and processing/reporting of data collected in quality control applications. Contains statistical graphics capabilities for average/range charts, histograms, attribute charts, and pareto analysis. Supports Beta Mate 911 Portable Data Collector for shop floor data collection and communications.

IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 40 since 1984 ☐ Cost: $1,395

BRISTOL BABCOCK, INC.

(subsidiary of Babcock International, Inc.)

☐ ACCOL II: Advanced Communications and Control Oriented Language

Includes 26 preprogrammed algorithms that perform process control functions. Provides computational/arithmetic functions and constructs for program flow control. Handles sequencing, control interlocks, performance calculations and state evaluation in real time. Performs process modeling, simulation and optimization.

IBM PC

☐ AIC (ACCOL II Interactive Compiler)

Configures ACCOL II control schemes. Compiles/checks task syntax. Converts control scheme into executable tasks for RDC 3350 or UCS 3380. Creates and edits tasks. Performs linking and downloading. Modifies programs on line. Component of TrollTalk.

IBM PC

☐ TrollTalk-PC

Converts micro into network monitor. Configures Telemetroll RDC 3350/UCS 3380 micro-controllers. Allows PC to serve as remote area monitor in Network 300. Real-time data collection/presentation. Alarm logging/reporting. Historical data collection/storage. Scheduled and demand logs.

IBM PC, XT, AT

BUSINESS SYSTEMS DESIGN, INC.

☐ MetriStat

Statistical process control program that permits manual or automatic entry. Includes mean, median, mode variance, kurtosis, skewness, standard deviation, X Bar and r, X Bar and sigma, histogram, run charts, individual and moving range, c, u, p, np and capability study.

IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 120 since 1985 ☐ Cost: $495

CONCEPTIMATION

☐ Procost

Prepares conceptual cost estimates for process plant projects. Provides +20 to -20 range of accuracy.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $4,995

CONCOURSE CORP.

☐ Statistical Methods for Improving Performance

Statistical process control training for production employees in manufacturing. Covers how to improve quality, data collection, charting, pareto charts, cause-and-effect analysis, frequency distributions and control charts. Produces statistical charts and tools.

IBM PC ☐ 256 KB req. ☐ Introduced: 1986

CONTROLSOFT, INC.

☐ Intune

Expert-based control, system monitoring and loop tuning. Includes trending, scaling alarming, on-demand reporting, restart if power fails and simulation and tune-on-demand modes.

IBM PC, XT, AT ☐ 440 KB req. ☐ Copies sold: 20 since 1986 ☐ Cost: $1,200

DENNISON MANUFACTURING CO.

Corporate Quality Assurance Group

☐ StatAids

Statistical tools for monitoring, controlling and analyzing products/processes performance. Utilizes graphics/data storage, menu and macro instruction capabilities of Lotus 1-2-3. Includes pareto/ranked unit distribution, OC and AOQ, percent defective and correlation/regression charts. Requires Lotus 1-2-3.

IBM PC, XT, AT ☐ 192 KB req. ☐ Cost: $75

☐ StatCap

Enters, stores, analyzes and graphs measurement type process data. Analyzes/documents capability of manufacturing process to meet product/process specifications. Produces histogram, normal probability, process capability, multi-vari, range, average and moving range/average charts. Requires Lotus 1-2-3.

IBM PC ☐ 320 KB req. ☐ Cost: $150

☐ StatTrac

Analyzes product field failure, in-process and final inspection, outgoing product audit, in-plant product rejects, multiple defects per unit/lot and receiving inspection/vendor data. Displays/prints line/bar trend or bar/pie category charts. Requires Lotus 1-2-3.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $225

☐ StatTrol

Enters, stores and maintains variable/attribute type data from processes. Produces X & R, multi-vari, normal probability, moving average/range and percent defective charts. Maintains process performance capability via user-set control limits. Controls limit calculations. Requires Lotus 1-2-3.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $100

EQUINOX DATA CORP.

☐ Loopworks

Signal monitoring, alarm logging, single and hierarchical PID loops, discrete control loops, logic operations, CompuSensors, password protection and configurable displays. Supports several lines of signal interface hardware, including Opto 22, Data Translation, Analog Devices and Burr Brown.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $995

GENZLINGER ASSOCIATES, INC.

☐ Statistical Process Control

Includes attributes and variables. Accepts input from gages, calipers, scales, speech and pocket computers. Interfaces with statistical analysis systems.

IBM PC ☐ 256 KB req. ☐ Introduced: 1985

PAUL HERTZLER & CO., INC.

☐ QA/S
Data base SPC system for analysis of variable and attribute data. Control charts and process capability analysis. Data archiving for long term data storage and standard analysis. Electronic data acquisition available.
IBM XT, AT ☐ 640 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $995-$1,950

HEURISTICS, INC.

☐ Onspec Control Software
Real-time, multi-tasking system for design, analyses, specification and control. Includes modeling, simulation, historical analysis, displays, trends, alarms and process I/O and network communications.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 700 since 1983 ☐ Cost: $3,995

INTELLUTION, INC.

☐ BDBA (BASIC Data Base Access)
Transfers data between BASIC programs and Intellution's The Fix. Manipulates measurement, setpoint, output, alarm status, auto/manual status, new alarm status, alarm acknowledge, trend data, control tuning parameters, point descriptors and engineering units tags. Includes sleep function for TopView compatibility.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $395

☐ CBA (C Data Base Access)
Transfers data between C programs and Intellution's The Fix.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $395

☐ Fix: Base System
Process monitoring and control system. BASIC, Lotus 1-2-3, WordStar and SuperCalc compatible. Graphic symbol library includes valves, actuators, pumps, ladder logic, tanks and pipes. I/O includes signal linearization, filtering, alarm limit checking, message generation and direct digital and sequencing control.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $3,795

☐ Fix: Engineering Development System
Off-line development of control strategies and graphics. DBB, DBL, Draw and DBMAKE functions.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $1,750

☐ Fix: Run Time System
DBL, SAC, FIX, VIEW and TYPER functions for use with previously configured control data bases and displays using Fix Base System or Engineering Development System.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $2,250

☐ Historical Trending and Archiving
Periodically samples and saves process data from Intellution's The Fix on hard disk. Includes playback for display generation. IBM TopView compatible. IBM EGA (Enhanced Graphics Adapter) compatible. Zooming and data compression.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $500

☐ On-Line Spreadsheet Interface
Transfers data from Intellution's The Fix to external spreadsheets and from external spreadsheets to The Fix. Lotus 1-2-3, dBASE III and SuperCalc compatible.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $250

LIONHEART PRESS, INC.

☐ Quality Control and Industrial Experiments
IBM PC ☐ Cost: $145

LOGICAL DESIGN CORP.

☐ Quality Assurance System
Provides statistic process control studies. Handles reviewing design, manufacturing, assembly and quality activities. Handles processing, gaging and control activities. Performs short and long term capability studies to generate histograms, X Bar, R, S, P, NP, C and U charts.
IBM AT, XT ☐ 384 KB req. ☐ Copies sold: 30 since 1982 ☐ Cost: $5,500-$7,000

MAJOR MICRO SYSTEMS, INC.

☐ Datatrans
Transfers data collected on OS-4 Data Analyzer DataMyte 1500 and 750 Statistician or Lotus 1-2-3 to MMS' SPC Express for analysis, storage and reporting.
IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $350

☐ SPC Express
Documents and tracks date, shift, time, material, lot control number and operator. Monitors possible causes of process variation. Reports include full X-bar R chart, short reports, action reports, data sheet, histograms and attribute charts.
IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1983 ☐ Cost: $1,500

MOORE PRODUCTS CO.

☐ Mycro Distributed Batch Control Systems
Provides recipe management, unit management, scheduling, reporting, graphics, alarm handling and historical tracking. User can generate, edit and store recipes. Identifies, schedules and tracks batches. Provides performance logs and summaries.
IBM PC

☐ Mycro MIS
Evaluates plant performance. Analyzes current plant operating conditions. Gathers/stores data including energy information, chemical stream composition and production/operating costs. Formats data for use in spreadsheet. Requires Lotus 1-2-3.
IBM XT

PROSCAN, INC.

☐ QScan
Integrated statistical process control and DBMS. Monitors/controls industrial processes. Estimates manufacturing process capabilities. Designs acceptance sampling plans. Models/analyzes economics. Accommodates process control data management, statistical analysis, control charts, reports, applications development and presentations/slideshows.
IBM PC, XT, AT ☐ 320 KB req. ☐ Introduced: 1985 ☐ Cost: $20,000

SIMULATION SOFTWARE SYSTEMS

☐ PCModel
Interactive, discrete-step graphic modeling and simulation of manufacturing assembly process. What-if case analysis. User controls pace of model, simulates failure points and modifies user-defined parameters during simulation session. Random number generator. Interfaces to spreadsheet programs.
IBM PC, XT, AT, PCjr, Portable PC ☐ 128 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $590

☐ PCModel/GAF (Graphic Animation Facility)
Integrated discrete-event simulation language and graphic animation system for manufacturing assembly process. Creates images in engineering units of measure. Object movement includes rotation/curvilinear motion and rectilinear translation. Includes graphic editor. Concurrent animation with simulation.
IBM PC, XT, AT ☐ Cost: $8,950

SOLVATION, INC.

☐ Routing
Maintains operations required to build product. Standard set-up and run hours. Standard labor roll-up. Integrates with other Solvation modules.
IBM PC ☐ 128 KB req.

STOCHOS, INC.

☐ Custom/QC
Statistical process control. Includes 16 control charts, 24 descriptive statistics calculations, histograms, means, multiple regression, process capability, sampling plan development, and 12 frequency curve comparisons. Input from spreadsheet, ASCII files and automatic data capture.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $995

MANUFACTURING— PRODUCTION CONTROL

ABC MANAGEMENT SYSTEMS, INC.

☐ Work Order Management System
Planning, scheduling, time and cost control. Tracks time slips for job progress. Interfaces to payroll. Schedules work orders by priority. Provides estimating standards for time slots and repetitive jobs. Generates performance reports.
IBM XT, AT ☐ 64 KB req. ☐ Copies sold: 60 since 1982

ADAPTABLE SYSTEMS CORP.

☐ Production Scheduling System
Aids in step-by-step process of assembly of manufactured goods. Tracks work orders and schedules required man-hours. Maintains product, department and routing files, and file for variations in work force. Prints routing sheets and work orders by product number, sequentially or by sales.
IBM PC, XT, AT ☐ Copies sold: 1 since 1985

ALESSI DATA TECHNOLOGY

☐ Forecaster-Buy/Forecaster-Buy II
Automates IC and production control to support delivery schedules. Provides hi-lo update, programmed selection of turnover period, forecasting and status of inventory items. FORECASTER-BUY II includes batch processing of assembly parts. Requires only one variable input to activate internal Master Scheduling Plan.
IBM PC ☐ 64-128 KB req. ☐ Copies sold: 49 since 1984 ☐ Cost: $1,295 (Buy); $1,995 (Buy II)

AMERICAN BUSINESS COMPUTER

☐ MFG Production Planning
Provides backlog information based on release schedules, inventory quantities and operations required to manufacture end items. Plans end item requirements, prints requirements in customer order, designates an item stock and fabrication lead time, and estimates machine hours and labor hours required.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 60 since 1976 ☐ Cost: $1,500

CIMCO (COMPUTER INTEGRATED MANUFACTURING CO.)

☐ PEPS
Production estimating and planning system for turning, drilling and milling processes. Provides management reports for budgeting, equipment justification and shop floor control.
IBM PC, XT

COMPUTER COVENANT CORP.

☐ Production Planning
Capacity planning and job scheduling.
IBM PC ☐ 30 KB req. ☐ Copies sold: 15 since 1978 ☐ Cost: $2,500

CORPORATE CONSULTING CO.

☐ Manufacturer's Fractional Quantity Order Processing, Invoicing and Inventory Control
Prints user-defined orders and invoices, picking tickets, 30-character comment lines, sales and profit control reports by customer, salesperson and state, journal sales summary for commission calculation, and sales tax summary by customer's state.
IBM PC ☐ 256 KB req. ☐ Copies sold: 20 since 1979 ☐ Cost: $2,875 (without AR); $3,875 (with AR)

DICKENS DATA SYSTEMS

☐ Production Control System
Integrates job tracking with labor performance. Aids in scheduling and tracking. Information of performance to standards.
IBM PC ☐ 512 KB req. ☐ Copies sold: 2 since 1985 ☐ Cost: $6,500 and up

EVOLUTION 1, INC.

☐ Extended Work Order Status

Maintains open, released and completed work orders. Includes job status, amount of material, labor burden and outside processing accumulated at each operation, rework and scrap status and expected due dates. Reports capacity planning, loading capability at labor performance.

IBM PC ☐ 128 KB req. ☐ Copies sold: 50 since 1977

☐ Master Production Schedule

Determines backlog, sets realistic goals and establishes management policy. Divides time periods into 24 intervals. Reports include master product schedule, and production schedule by product and plant.

IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1977

☐ Routing

Designed to interface BOM and WIP modules. Establishes and maintains routing master file, which calculates work center loads, manufacturing lead time and standard production costs.

IBM PC ☐ 128 KB req. ☐ Copies sold: 500 since 1977

HELMSMAN SYSTEMS, INC.

☐ H-MAKE

Provides WIP management. Enters, tracks and updates work orders. Generates paperwork packets including kit pull lists, for each job. Ties back-order item detail to work order and makes information available on-line. Generates labor and job costing reports. LAN compatible.

IBM PC ☐ 512 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $2,495

☐ H-PLAN/M

Provides master schedule and planner controls and MRP for manufacturing operations. Provides time-phased net requirements for each item. LAN compatible.

IBM PC ☐ 512 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $2,495

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ COPICS/EDL (Executive Data Language)

IBM no. 5785-DFW. Extracts information from DL/I and VSAM data bases and formats information for use on PC in DIF or basic sequential format. For use with spreadsheet analysis, graphics and management support applications. Requires IBM COPICS (Communications Oriented Production Information and Control System).

IBM PC, XT, AT, 3270-PC

INFISY SYSTEMS, INC.

☐ Estimating and Shop Order Routing System

Calculates cost and prepares quotes on four quantities and five mark-ups. Estimates in pieces per hours or hours per piece, multiple set-ups and set-up frequency, scrap factor, sequence operations and 999 lines of description.

IBM PC ☐ 128 KB req.

☐ Production Planning and Measurement

Provides manual or automatic, forward or backward scheduling. Considers standard hours to order/receive, setup time, run time, standard hours between operations, standard hours for outside operations, standard work week and holidays, material and outside schedules.

IBM PC

INSTITUTE OF INDUSTRIAL ENGINEERS

☐ Production Control

Features crew size analysis, assembly line balancing, line of balance analysis and setup time sequencing.

IBM PC, XT ☐ 48 KB req. ☐ Copies sold: 665 since 1982 ☐ Cost: $175

KEYTRIX SYSTEMS

☐ Primecut/2000

Panel cutting optimization, utilization and layout. Handles wood, metal, glass, carpet or other flat sheet stock. Provides cutting list and respective cutting patterns based on minimal material cost or minimum materials usage. Integrates with Keytrix's Casework/2000.

IBM PC ☐ 256 KB req. ☐ Copies sold: 25 since 1985 ☐ Cost: $850-$5,000

LOGICAL DESIGN CORP.

☐ Capacity Requirements Planning

Module of LDC's Manufacturing Management System. Makes projection for 40 time periods. Includes data file backup, report spooling, and machine hours used update. Requires BOM, OE and/or Release Processing, Production Scheduling and WIP modules.

IBM XT ☐ Copies sold: 40 since 1981 ☐ Cost: $2,100-$5,600

H. B. MAYNARD AND CO., INC.

☐ MOST Work Measurement Systems

Work measurement and standards application system for manufacturing and labor control. Integrates with CAM and MRP systems.

IBM PC ☐ Cost: $11,000

MCBA

☐ M/S (Master Scheduling)

Allows what-if scheduling, use of customer's orders and sales forecasts and rough cut capacity planning. Extends into future periods with selected percent adjustments to quantities.

IBM AT ☐ Copies sold: 200 since 1984 ☐ Cost: $2,000-$7,500

M & D SYSTEMS, INC.

☐ MYTE MYKE Production Order Processing

Enters and releases shop orders and provides order inquiry and inventory updates. Features backlog based on date required, production based on completion date, and inquiry by shop order or product. Requires MYTE MYKE Standard Cost, IC and/or Production Reporting or Shop Floor Control modules.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $795-$2,295

MMS INTERNATIONAL

☐ MCS-3 Capacity Requirements Planning

Module of MCS-3, integrated manufacturing system. Handles work center load reporting and preventive maintenance.

IBM PC ☐ 64 KB req. ☐ Copies sold: 60 since 1984 ☐ Cost: $1,400

NAVONE ENGINEERING

(division of Navone Electronics, Inc.)

☐ PQS Process Quality Simulator

Evaluates part quality, manufacturing, inspection, production equipment, and inspection equipment. Provides three sampling methods. Displays good and bad parts shipped. Uses Monte Carlo random number simulation. Evaluates any plan from two parts to over 1,000,000 parts.

IBM PC, XT, AT ☐ 48 KB req. ☐ Cost: $135

PATTERN SYSTEMS INTERNATIONAL, INC.

☐ Cabinet Planner

Specialized BOM and cutting list program that calculates part sizes from overall dimension of each cabinet. Designed for customer cabinet and furniture manufacturer. Outputs listing of component parts and cutlist used by cut planner.

IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $2,000-$4,000

☐ CUT PLANNER

For manufacturing firms and fabricators. Minimum cost cutting schedule generator for rectangular parts of glass, wood, metal, sheet or other flat stock. Generates cutting layouts to minimize waste and cutting time. Handles special materials and equipment.

IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 200 since 1982 ☐ Cost: $995-$7,995

PROFITKEY INTERNATIONAL, INC.

☐ Job Shop System

Interactive shop floor control system featuring manpower and machine planning, finite and infinite scheduling and rescheduling. Provides estimating capability, job tracking and costing. Additional modules include Serial Number Control, Customer Management, Purchasing, Financials and Report Writer.

IBM PC, AT ☐ 128 KB req. ☐ Copies sold: 170 since 1982

WYMAN ASSOCIATES, INC.

☐ onTime

Menu-driven production scheduling system. Tracks jobs. Calendar allows holidays and split shifts. Permits choice of 6 expert scheduling methods. Computes budgets, schedules, actual costs, profit earned, time remaining, workload and capacity forecast. Prints 12 reports.

IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1980 ☐ Cost: $495

MANUFACTURING— SHOP FLOOR CONTROL

ADMINISTRATIVE PRODUCTIVITY, INC.

☐ Mini Schedule and Machine Loading System

Job, work center and time tracking. Summarizes entire factory workload in man hours by work center by week for 10 week periods. Values WIP inventory. Production order status displays. Specifies each job's operations, time required and work remaining to be done.

IBM PC, XT, AT

A & M SOFTWARE

☐ JOBASIGN I

Accepts required start and end times for each job and the time to go from job to job. Specifies assignment scheme and sequence of work that requires fewest number of workers or machines.

IBM PC ☐ 64 KB req. ☐ Cost: $250

☐ JOBASIGN II

Handles different skill levels of workers on each machine. Records efficiency of each worker or machine on each job. Specifies assignment scheme that enhances efficiency.

IBM PC ☐ 64 KB req. ☐ Cost: $200

☐ JOBASIGN III

Records the skill of workers or efficiency of machines. Specifies assignment scheme that maximizes througput.

IBM PC ☐ 64 KB req. ☐ Cost: $250

APPLIED DIGITAL COMMUNICATIONS

☐ Shop Mgr.

OE/invoicing, job costing/reporting, perpetual IC, shop order release and shop floor control and estimating/MRP, single-point collection of time sheets, material requisitions and outside vendor invoices, process or operations sheets, multi-level BOM, shop scheduling and PO generation.

IBM PC, AT ☐ 64 KB req. ☐ Copies sold: 20 since 1981 ☐ Cost: $2,000 and up

DATA ACQUISITION SYSTEMS, INC.

☐ T/A Time and Attendance Software

Controls HP307X time and attendance terminals. Data is collected,verified and time stamped by means of a standard attendance transaction. Transactions may be reported and/or transferred to host system via an RS-232C link.

IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $695

DATAMATION, INC.

☐ Production Planning and Job Tracking
Closed-loop MRP system. Reports job cost daily, weekly or monthly by hour, dollars and budget by shop and operation. Provides completed job reports and 8-week production planning report integrated into manufacturing order control. Subsystems integrate with OE and shop floor control.
IBM PC ☐ 128 KB req. ☐ Copies sold: 150 since 1981 ☐ Cost: $14,000

DATAWAY SYSTEMS
(division of A. D. Kahn, Inc.)

☐ TEL/JIT System
Distributes information to suppliers on parts and time schedule needs or requirements. Developed for Chrysler Corporation. Requires Voice Response equipment.
IBM AT

☐ TEL/PRO System
Enables plant employees to send and receive shop floor data via touch-tone telephone. Reports production counts, quality indicators, downtime, manpower requirements and statistical process control. Voice response gives prompts and data confirmation to users.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 12 since 1986 ☐ Cost: $40,000-$60,000

☐ TEL/SPC System
Enables plant employees to send and receive shop floor data via touch-tone telephones. Reports Statistical Process Control indicators and first run data. Voice response gives prompts and data confirmation to users.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1986 ☐ Cost: $40,000-$60,000

D. C. D. CO.
(division of Borg Enterprises)

☐ Job Shop Control System
Tracks jobs in process, costs jobs and provides shop scheduling. Allows for data entry, editing and correction. Provides audit trails. Integrates with AR, AP, GL, payroll, inventory and PO modules.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 1,000 since 1974 ☐ Cost: $6,000-$11,500

DIGIBOARD, INC.

☐ VISTA Series
Shop order scheduling, tracking and costing. Built-to-order and built-to-stock.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 15 since 1981 ☐ Cost: $7,000-$80,000

HAI SOFTWARE, INC.

☐ HAI*LINE Work In Process
Assigns work order number to group of products being manufactured. Automatically interfaces with HAI*LINE Manufacturing's BOM and HAI*LINE Inventory master inventory file. Generates work order numbers from previously evaluated manufacturing requirements. Produces reports.
IBM PC ☐ 128 KB req. ☐ Cost: $395

INFOSOURCE MANAGEMENT, INC.

☐ JMACS-Job Costing
Produces reports for in-process or completed jobs. Analysis profitability and spots inefficient operation in shop.
IBM PC, AT ☐ 512 KB req.

☐ JMACS-Plant Reporting
Places jobs into shop. Economic manufacturing quantities aid in scheduling machines and labor. Provides promised delivery dates to customer by sales staff.
IBM PC, AT ☐ 512 KB req.

JOBTRAK SYSTEMS, INC.

☐ Job Boss
Consists of job estimating, job scheduling, tracking and costing, IC, purchasing and monitoring changing delivery dates and quantities. Integrates with AR, AP, Payroll and GL modules.
IBM PC ☐ 256 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $7,000-$11,000

MANAGEMENT REPORTING RESOURCES, INC.

☐ Manufacturing Job Shop System
IBM PC ☐ 64 KB req. ☐ Cost: $395-$795 per module

M & D SYSTEMS, INC.

☐ MYTE MYKE Shop Floor Control
Supports single and multi-user environments. Generates production reporting based on actuals rather than standards. Provides report variances in method and deficiencies (+ or -) in standards. Updates raw and finished inventories. Requires MYTE MYKE IC, Standard Cost and Production Order Processing modules.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $795-$2,295

MICAPP, INC.

☐ Machine Shop Cost Estimating
Comprised of 18 programs tied together with filing routines. Machine specific and covers over 80 specific machine tools. Estimate re-pricing capability. Supports learning curves.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 7 since 1985 ☐ Cost: $600-$1,195

MICROBAR DEVELOPMENT CORP.

☐ ShopScan
Intelligent shop floor data collection. Includes WIP tracking, labor collection, dock-to-stock inventory issues and receipts, time and attendance and quality assurance. Provides bar code utilities including label format generator, import/export utility, installation utilities and inquiry/report writer.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 7 since 1984 ☐ Cost: $6,000-$12,000

MMS INTERNATIONAL

☐ SFC-3 Shop Floor Control/Job Costing
Handles WIP, tracking, job cost and job estimation.
IBM PC ☐ 64 KB req. ☐ Copies sold: 130 since 1984 ☐ Cost: $2,500

NATIONAL NUMERICAL CONTROL APPLICATIONS, INC. (NN/CA)

☐ Job Tracking System
Job OE and parts history of past jobs for machine shops. Lists jobs chronologically with pricing, monthly totals and grand total. Lists part numbers showing number of entries for each part and all previous runs with P&L data. Unloads orders as shipments are made.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 6 since 1985 ☐ Cost: $495

NUMERITRONIX, INC.

☐ DNC/CIM Paperless Factory System
Collects manufacturing management information from operators and via electronic monitoring of processes. Distributes graphics information to work station at machine. Optional conversion to BCL (RS494) input at NC/CNC.
IBM PC ☐ 512 KB req. ☐ Copies sold: 30 since 1982

☐ Exec 2001
Provides machine interface to various NC/CNC, Robots, CMM and shop floor terminals or controllers. Stores machining and process information locally and downloads to manufacturing equipment as needed. Allows sending of information to multiple devices. Stores collected data in host. Provides management reporting.
IBM AT ☐ 512 KB req. ☐ Copies sold: 6,500 since 1980

PALADYNE SOFTWARE PROFESSIONALS, INC.

☐ ELTACAP
Real-time shop floor data collection system. Handles raw material control, factory scheduling, machine monitoring, time and attendance and work scheduling. Supports magnetic and bar code input. Standalone or interfaces with mainframe manufacturing software.
IBM PC ☐ 256 KB req. ☐ Copies sold: 16 since 1978 ☐ Cost: $25,000

POTTERSTOWN ENTERPRISES

☐ Dynamic Job Shop Scheduler
Tracks orders and work center loads. Reschedules orders which have fallen behind schedule. Ascertains that work center loading does not exceed capacity. Maintains proper manufacturing sequences. Issues job tracking report and work center load/week report. Measures productivity of work centers and plant.
IBM PC ☐ 256 KB req. ☐ Copies sold: 2 since 1986 ☐ Cost: $800

☐ Machine Shop Advisor
Handles set-up and handling times, feed rates surface speeds, depths of cut, number of tools, tool materials, job routing and total time. Customized to suit users facilities. What-if feature. Stores generated data for retrieval, editing and reprinting.
IBM PC ☐ 256 KB req. ☐ Copies sold: 2 since 1985 ☐ Cost: $4,000

PPL (PACKAGE PROGRAMS OF LONDON)

☐ WIPPLAN
WIP component of Uniplan. WIP setup and progress, WIP scheduling, rough cut capacity planning, shop floor documentation and master manufacturing file management. Password, access level and marker access security. Multiple company support.
IBM PC

ROUGHNECK SYSTEMS

☐ Job Control
Includes job costing, job scheduling with GL, AP, AR and Payroll.
IBM PC ☐ 64 KB req. ☐ Copies sold: 200 since 1976 ☐ Cost: $1,995

SOLVATION, INC.

☐ Shop Floor Control
Production planning for small manufacturing companies. Tracks each order through operations. Shop load report. Integrates with other Solvation modules.
IBM PC ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $1,195-$1,995

☐ Work Order Tracking
Provides order cost information. Prints pick lists and work orders. Labor reports. Integrates with other Solvation modules.
IBM PC ☐ 128 KB req.

TM COMPUTER SYSTEMS, INC.

☐ Job Control Plus
Designed for job shop that bids for jobs. Handles POs, work orders, daily labor and report generation. Includes material costs with automatic price breaks, tooling, setup and outside vendor costs. Separate workorders for job sub-parts generated.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 224 since 1984 ☐ Cost: $2,500

VIEHMANN CORP.

☐ Estimating System-Machine Shops
Prepares multiple-lot-size bids for make-to-order shop. Lot sizes, raw material, operation names and machining dimensions. Selects appropriate vendor bid for each lot size. Calculates machine speeds, feeds and cycle times, and costs and prices. Prints quotation.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $1,500 per module

☐ Job Cost Machine Shops
Tracks job material/labor costs and categories of expenses and outside direct costs. Displays/prints exception reports and job results. Records each job shipped. Searches by customer ID, customer PO number, part number, job ID, date, class of part raw material. Generates reports.
IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $1,500

☐ Shop Floor Control Job Shops
Shop floor scheduling, queue lists, job scheduling, productivity management, machine loading, capacity planning, resource management and performance analysis.
IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $6,950

WOLF DATA SERVICES, INC.

☐ Job Shop System
Enters orders, with estimated cost, defines workstations and records labor materials used at each workstation, analyzes work in progress by customer and order, calculated value or work loaded against each workstation and against entire shop.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 25

MANUFACTURING—OTHER

ADAPTIVE INTELLIGENCE CORP.

☐ AAMPL (Adaptive Assembly Machine Programming Language)
Programming language for Adaptive Assembly Robotic Machine. Programs gripper arm movement, use of force feedback and optical sensing, exception handling, production statistics/exception data logging, switch from batch-oriented procedure to another, and exception recognition by monitoring how arm travels and patterns encountered.
IBM PC

ADVANCED ANALYTICAL, INC. (AA COMPUTER SYSTEMS)

☐ CharterHouse Manufacturing Inventory/Bill of Materials
Single and multi-user. Multi-company. Schedules finished goods by allocating raw material components and sub-assemblies. Receives inventory. Works in conjunction with CharterHouse Accounts Receivable with Billing.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2,000 since 1979 ☐ Cost: $1,700

ALLSTON GROUP

☐ Defect Analysis System
Records and maintains yield data including defect types. Reports detailed yield percentages by sublot and defect type, defect ranking by part number and historical yield plots by groups of part numbers. Up to 19 user-defined defect types.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $3,000

AMERICAN BUSINESS SYSTEMS, INC.

☐ Manufacturing Management System
IC and PO including BOM, cyclic count and implosion/explosion. Features multi-level password protection. Includes what-if analysis and work-in-progress file. Uses Luhn's check. Used with ABS's business accounting control.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984

APPLICON

(a Schlumberger Co.)

☐ Design and Documentation
Interactive graphics system for creating blueprints and other mechanical and process documentation such as machine tool setup sheets and fixture drawings.
IBM PC

☐ Facility Layout
Integrates facility design with manufacturing. Defines and supports data base framework for facilities, equipment and utilities of manufacturing plant. Increases productivity in plant layout activities at project management and layout engineering levels.
IBM PC

☐ Factory Network
Enhances performance of manufacturing operations by streamlining communications between engineering office and factory floor.
IBM PC

APPLIED MANAGEMENT CORP.

☐ Accounts Payable-Open Item
Open voucher system with capacity for 32,000 vendors. Prepares reports for vendor master list, open vouchers, disbursements register, monthly register of written checks, paid voucher register, GL posting register and cash requirements report. Integrates to IBS 101 GL.
IBM PC ☐ 48 KB req. ☐ Copies sold: 100 since 1979 ☐ Cost: $450

APPLIED MANAGEMENT SCIENCES CORP.

☐ Order Entry, Invoicing and Receivables
Handles daily OE, invoicing, receipts, and warehouse inventory; weekly sales control, custom statements and receivables trial; monthly commission statements, sales by state, and sales by product; and on demand customer status and master file maintenance. OE module requires custom installation.
IBM PC ☐ 256 KB req. ☐ Cost: $40,000

ARGOS, INC.

☐ Sales
Version of ABECAS Financial and Management Accounting Series for distributors/manufacturers/processors. Sales Order Processing, Inventory Management, AR. Sales and inventory track sub-items and serial numbered items. Sales provides back room order taking, billing and counter sales, and updates GL and cost accounting.
IBM PC ☐ 64 KB req. ☐ Copies sold: 12 since 1983 ☐ Cost: $3,000-$5,000

AUTO TELL SERVICES, INC.

☐ Maintenance Management System
Maintenance management and spare parts IC system for industrial plants. Supports single and multiple users.
IBM PC

BELL & HOWELL CO.

Information Services Division

☐ Power+ Data Collection System
Captures and edits manufacturing data. Transfers data to host as source data for daily operations and management reports.
IBM PC, XT, AT ☐ Cost: $29,000

BIK CUSTOM SYSTEMS

☐ PICS (Production Inventory Control System)
Manufacturing IC. BOM, IC of parts, sub-assemblies and finished goods, low stock and on-order information, OE, shipping and parts YTD and monthly usage. Adjusts inventory levels based on goods received and shipped. Handles 1,000-10,000 items, 500 vendors and 500 BOMs.
IBM PC ☐ 64 KB req. ☐ Copies sold: 8 since 1984 ☐ Cost: $495

COMPUTER APPLICATION SPECIALISTS, INC.

☐ Job Costing/Estimating
Allows labor, material and outside vendor entry. User can specify markups for various product lines through different burden and overhead rates. Hnadles custom and semi-custom products. Interfaces OE and IC.
IBM PC, AT ☐ 128 KB req. ☐ Copies sold: 20 since 1981 ☐ Cost: $1,000

COMPUTER COVENANT CORP.

☐ Materials Inventory/Purchasing
IC system for raw materials and components including PO writing.
IBM PC ☐ 30 KB req. ☐ Copies sold: 11 since 1979 ☐ Cost: $2,500

☐ Tool Accounting Inventory
Maintains, reserves, requisitions, receives, transfers, adjusts, issues, returns and disposes of manufacturing tools in multiple tool cribs. Reports supply, usage, activity, condition, and location of tools used in manufacturing process. Charges tool costs to using work center.
IBM PC ☐ 30 KB req. ☐ Copies sold: 4 since 1985 ☐ Cost: $1,000-$2,500

CORPORATE CONSULTING CO.

☐ Manufacturer's Job Cost/Inventory Control
Features last cost paid or average cost and records job number/description when drawing items from inventory. Prints inventory by item number, location and bin number or product grouping. Inventory valuation report. Month-end summary.
IBM PC ☐ 256 KB req. ☐ Copies sold: 20 since 1978 ☐ Cost: $1,375

D. C. D. CO.

(division of Borg Enterprises)

☐ Inventory Control System/Bill of Materials
Keeps item balances current through entry of inventory transactions such as issues, sales, receipts and adjustments. Produces reports and tracks material orders and requirements. Used with job costing and BOM.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 300 since 1981 ☐ Cost: $1,500-$3,000

D & S SYSTEMS, INC.

☐ IMAG (Manufacturing Job Shop)
Provides payroll with labor production, union and government reporting, purchasing, AP and GL. Generates financial statements, job cost, equipment cost, estimating, and subcontractors reporting. Tracks fixed assets, AR, IC, OE, invoicing, labels and check reconcilation.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 700 since 1978 ☐ Cost: $5,250-$16,500

HELMSMAN SYSTEMS, INC.

☐ H-STORE
Inventory management with audit trail to data base transaction source document and operator. Creates/tracks back orders. Provides available inventory and WP transaction interface to accounting. LAN compatible.
IBM PC ☐ 512 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $2,495

INDUSTRIAL ENGINEERING SERVICES

☐ MODAPTS Plus
Handles manufacturing, clerical and warehousing.
IBM PC

INDUSTRY SOFTWARE SALES, INC.

☐ Manufacturing Control System
Job costing and IC. Maintains historical costs per item and figures sales quotes. Updates POs. User sets price code levels. Prints quantity discount breaks, BOM and year end tag count.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1 since 1984 ☐ Cost: $11,500

INFOSOURCE MANAGEMENT, INC.

☐ JMACS-Customer Order Processing
Interfaces customer orders and shipments to finished goods section of MRP. Supports open order/ship-to files. Provides daily billing data for invoicing and subsequent processing in AR system.
IBM PC, AT ☐ 512 KB req.

☐ JMACS-Purchasing
Maintains purchasing records. Provides on-order of raw materials for MRP.
IBM PC, AT ☐ 512 KB req.

INSTITUTE OF INDUSTRIAL ENGINEERS

☐ Operations Research
Features linear programming, maximum flow analysis, and inventory and queuing models.
IBM PC, XT ☐ 48 KB req. ☐ Copies sold: 600 since 1984 ☐ Cost: $140-$175

INTERNATIONAL MICRO SYSTEMS, INC.

☐ Manufacturing Inventory Control System
Provides finished-goods and parts inventory, BOM, production scheduling. Creates work orders. Produces reports of parts required to meet current or anticipated production. Prints POs for parts. Calculates production costs and time of work order completion. Prints production cost variance report.
IBM PC, AT, XT ☐ 128 KB req. ☐ Copies sold: 623 since 1981 ☐ Cost: $1,500

KASONS COMPUTER SYSTEMS, INC.

☐ Labor Cost Tracker
Produces job cost reports, tracks productivity of each employee and produces wage and tax data for weekly pay checks and federal withholding forms. Historical job cost details are available for bidding new jobs. Designed for manufacturing companies with up to 100 employees, and up to 50 active jobs or projects.
IBM PC ☐ 64 KB req. ☐ Copies sold: 20 since 1982 ☐ Cost: $1,995

LEAST COST FORMULATIONS, LTD.

☐ Least Cost Formulator
Linear programming system. Determines least-cost formulation of materials. Permits products to be made from raw materials or pre-blends. Provides what-if capability to study effects/costs of product.
IBM PC ☐ 56 KB req. ☐ Copies sold: 120 since 1975 ☐ Cost: $12,000-$25,000

☐ Quality Control Manager
Handles filing, cross-indexing, statistical calculations and reports on vendor analysis/comparisons, process control, people productivity, and return-on-investment and reduces reaction time. Accumulates data by lot samples. Generates history tables, trend charts and control graphs.
IBM PC ☐ 256 KB req. ☐ Copies sold: 8 since 1983 ☐ Cost: $4,000-$6,000

MICRO-MRP, INC.

☐ Just-in-Time
Schedules parts and plans labor resources on products planned for shipment. Modular component of Micro-MRP's MAX.
IBM PC ☐ Cost: $4,000

MINI-MICRO BUSINESS SYSTEMS

☐ Manufacturing
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 1,986 since 1978 ☐ Cost: $1,495

MMS INTERNATIONAL

☐ MCS-3 Financial Resource Planning
Modular component of MCS-3 integrated manufacturing system. Forecasts, budgets and controls cash flow. Designed for small to medium manufacturers.
IBM PC ☐ 64 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $950

☐ Syman Financials
Manufacturing accounting system designed to stand alone or integrate with Syman Job Shop manufacturing control system. AR, AP, GL and Payroll.
IBM PC ☐ 640 KB req. ☐ Introduced: 1986

MOORE PRODUCTIVITY SOFTWARE

☐ BLOCPLAN (Block Layout Overview with Computerized Planning with Logic and Algorithms: New Issue)
Develops and displays graphically block plan layouts for factory or office. User must input area requirements and relationship chart defining relationships between all pairs of departments.
IBM PC ☐ 128 KB req. ☐ Copies sold: 4 since 1985 ☐ Cost: $895-$1,695

☐ SLPCALC (Systematic Layout Planning CALCulator)
Eleven templates predict space needs, prepare from-to charts, determine layout installation costs, space requirements, payout period of layouts, and layout alternatives and materials handling alternatives for factories/offices/warehouses. Used with VisiCalc or Lotus 1-2-3.
IBM PC ☐ 64 KB req. ☐ Copies sold: 90 since 1983 ☐ Cost: $250

MTM ASSOCIATION FOR STANDARDS AND RESEARCH

☐ ADAM
Universal predetermined time system applicable to all manual work. Creates and maintains labor standards and data. Incorporates MTM-2, MTM-UAS, MTM-V, MTM-C and MTM-MEK. Accepts data from other sources.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 100 since 1981 ☐ Cost: $18,000

☐ 4M Data-MOD II
Universal predetermined time system applicable to all manual work. Creates and maintains labor standards. Applies MTM-1 while incorporating MTM-UAS, MTM-MEK, MTM-V, MTM-C or data from other sources.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 300 since 1978 ☐ Cost: $36,000-$39,000

NAMCO, INC.

☐ Unidex
Group technology system designed to code and classify component products and parts so they can be organized, retrieved and reported by such characteristics as purpose, shape, size and material.
IBM PC, XT, AT ☐ 32 KB req. ☐ Copies sold: 12 since 1975 ☐ Cost: $15,000

NORTH AMERICAN TECHNOLOGY EDP, INC.

☐ SLIM (Service & Light Manufacturing Information System)
Handles operation of project oriented service or light manufacturing business. Includes estimating, invoicing, job costing, profit analysis and sales analysis.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 30 since 1984 ☐ Cost: $3,495

NORTHWEST ANALYTICAL, INC.

☐ Quality Analyst
Statistical quality control charting and statistical analysis for manufacturers. Process investigation and control. Includes data manipulation, cumulative sum analysis and charting.
IBM PC ☐ 64 KB req. ☐ Copies sold: 150 since 1985 ☐ Cost: $495

POLYMATHIC COMPUTER CORP.

☐ Furniture Manufacturers
IBM PC

PPL (PACKAGE PROGRAMS OF LONDON)

☐ Jobplan
Job Costing Component of Uniplan. Job setup and estimating, job scheduling, job progressing, job costing and master manufacturing file management. Password, access level and marker access security. Multiple company support. Record level locking.
IBM PC

☐ Ledgerplan
GL component of Uniplan. Nominal, sales and purchase ledgers and invoicing. Password, access level and marker access security. Multiple company processing. Record level locking. Narrative, posting or total account types. VAT codes/descriptions. Inter-ledger journals. Net VAT reports.
IBM PC

☐ Payplan
Payroll component of Uniplan. Prepared standard, SSP (Statutory Sick Pay) and PIW (Periods of Incapacity of Work) payroll. Prints payslips, coinage analysis, credit transfers and checks. Multiple company support. Password, access level and marker access security.
IBM PC

SELKIRK ASSOCIATES

☐ Correspondent-Manufacturing
DBMS, word processing, calendaring. Tracks customer/distributor service activity over time. Schedules followups. Corresponds to target groups. Produces tickler reports for service reps.
IBM PC ☐ 256 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $1,500

SOFTWARE DESIGN SYSTEMS, INC.

☐ Manufacturing Inventory Control
Provides inventory valuation report, POs, on-order report, vendor master list, BOMs, where-used list and material requirements planning report. Reports on overstocked items based on sales history and reorder items. EOM sales and gross margin dollar reporting.
IBM PC ☐ 64 KB req. ☐ Copies sold: 3 since 1983 ☐ Cost: $6,500

SOFTWARE TECHNOLOGY

☐ Gage & Master, Calibration/Control
Gage recall for calibration, inspection history and GM or Ford capability studies.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 400 since 1983 ☐ Cost: $675

SOLVATION, INC.

☐ Accounts Payable
Ages/schedules payables. Check writing and bank reconciliation. Produces cash requirements reports. Integrates with other Solvation modules.
IBM PC ☐ 128 KB req.

☐ Accounts Receivable
Statements, aging and overdue reports. Mailing labels. Calculates finance charge. Integrates with other Solvation modules.
IBM PC ☐ 128 KB req.

☐ General Ledger
This year, last year and budget comparisons. User-defined reports. Interfaces with AR, AP and Payroll.
IBM PC ☐ 128 KB req.

☐ Inventory
Single- or multi-user inventory for small manufacturers. Integrates with other Solvation modules.
IBM PC ☐ 128 KB req. ☐ Copies sold: 12 since 1983 ☐ Cost: $995-$1,650

☐ Order Processing
Order processing for small manufacturers. Integrates with other Solvation modules. Single- or multi-user.
IBM PC ☐ 128 KB req. ☐ Copies sold: 8 since 1984 ☐ Cost: $1,495-$2,495

☐ Payroll
Departmental reporting. Federal, state and local tax reporting. Check printing and bank reconciliation. Integrates with other Solvation modules.
IBM PC ☐ 128 KB req.

☐ Sales Analysis
Sales analysis by customer, item, representative and region. Integrates with other Solvation modules.
IBM PC ☐ 128 KB req.

STOLZBERG RESEARCH, INC.

☐ Accumark
Handles BOM, inventory allocation/depletion, MRP, incoming stock and audit trail for each part movement. Chemical/formulations version available for lot and batch inventory.
IBM PC ☐ Cost: $2,995

STRAIGHTFORWARD

☐ MSDfont
Font processing system for printer manufacturers.
IBM PC ☐ Introduced: 1985

SUPERIOR MACHINERY CO.

☐ INV
BOM, IC, cost control, AR, OE. Generates PO, invoices, stock requisitions, work orders and reports. Rolls up current costs from actual cost data and time reports.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1 since 1983

SYSTEMS MODELING CORP.

☐ Siman
General-purpose, simulation language for modeling combined discrete and continuous manufacturing systems. Draws inferences from proposed systems without building. I/O in graphics mode. Performs statistical analysis on output.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 900 since 1983 ☐ Cost: $1,500 (micro)

TECHNOLOGY RESEARCH CORP.

☐ ROBOTJUSTIFICATION
Analytical spreadsheets for economic justification analysis of industrial robots. Worksheets evaluate applicable tax and depreciation benefits under new federal tax laws. Calculates investment returns and payback period based on user-supplied data.
IBM PC ☐ 64 KB req. ☐ Copies sold: 926 since 1983 ☐ Cost: $100

TWIN OAKS, INC.

☐ mrp2- Inventory
IC module provides stock status, reorder and transaction reporting. Secondary Location module supports unlimited secondary sites. Pick List module generates material picking list. Cycle Counting module calculates stock room accuracy. Historical Usage module reports monthly, YTD and annual usage.
IBM PC, XT ☐ 192 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $1,600-$3,750

UNIK ASSOCIATES

☐ Manufacturing Inventory Control Program
Maintains tool cribs, stock-room and warehouse. Stores and receives 30,000 parts with 3 vendors per part. Provides reorder point, on-hand and maximum inventory, lead time, cost, parts usage, charge account history, and out of stock.
IBM PC ☐ 512 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $1,995

MECHANICAL ENGINEERING

AAA TECHNOLOGY & SPECIALTIES CO., INC.

☐ Pipenet
Fluid flow analyses of piping networks. Calculates flow rates, velocities, pressure and pressure drops. Handles compressible and incompressible fluids. Incorporates any type flow resistance or equipment gain or loss. Fire protection system analysis and reporting follow National Fire Protection Association regulations.
IBM PC ☐ 500 KB req. ☐ Copies sold: 8 since 1980

☐ Tri*Flange
Analysis and design of all flanges in Figure UA-48, Section VIII, Div. 1. Handles internal/external pressure, test pressure and external forces and moments. Analyze or design welding neck, slip-on, lap-joint, plate, blind and split flanges.
IBM PC, XT, AT ☐ 500 KB req. ☐ Copies sold: 9 since 1976

☐ Tri*Flex
3D piping system analysis and design considers effects of temperature, pressure, weight and seismic loadings. Features free format keyword input, automatic spring hanger design and nonlinear (one-dimensional limit stops) restraint actions. Provides compliance reports.
IBM PC, XT, AT ☐ 1,024 KB req. ☐ Copies sold: 40 since 1972

☐ Tri*Vessel
Designs and analyzes unfired pressure vessels, nozzles and flanges following ASME Sec. VIII, Div. 1. Five sub-programs, horizontal, horizontal with zick analysis, vertical vessel, reinforcing pad design for horizontal vessels, and reinforcing pad design for vertical vessels. Internal materials library.
IBM PC, XT, AT ☐ 500 KB req. ☐ Copies sold: 15 since 1976

☐ Werco
Calculates local stresses due to external loadings in vessel shells at clip and nozzle connections. Determines single or combined stresses in spherical and cylindrical vessels. Applies Welding Research Council (WRC) bulletin number 107. Contains dimensionless curves and handles connections within its parameters.
IBM PC, XT, AT ☐ 500 KB req. ☐ Copies sold: 11 since 1975

APPLIED COMPUTER SERVICES, INC.

☐ MTM-1 (Methods Time Measurement)
Productivity tool for use by industrial engineers in developing and maintaining labor standards. Creates and maintains standards or motion pattern studies. Includes user ID and password protection, automatic activity log and backup and restore support.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 12 since 1984 ☐ Cost: $3,500

☐ SWP (Standard Working Procedure)
Productivity tool for use by industrial engineers in developing and maintaining labor standards by referencing data base of standard data. Prompts for compulsory inputs relating to study code, PF&D allowance and costing base.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 16 since 1984 ☐ Cost: $1,899

AUTO-TROL TECHNOLOGY CORP.

☐ Series 7000 Advanced Graphics Software for Mechanical Design and Manufacturing
Geometric modeling system develops 2D and 3D product models. Conducts design studies, generates documentation and prepares NC programs. Provides CAD/CAM capabilities. Can interface with third party software for analyses such as solids modeling and finite element modeling and analysis.
IBM PC, AT ☐ 1,000 KB req. ☐ Copies sold: 500 since 1981

BANTA SOFTWARE

☐ Mechanical Engineering Pot Pouri
Kinematic and kinetic analysis of Four bar and slider crank mechanisms. Beam design including deflection for statically determinant cases in structures and machine design.
IBM PC ☐ 64 KB req. ☐ Cost: $50

CAETEC SYSTEMS, INC.

☐ PROfessional Engineering Series
Consists of Pro-Solid for 3-D solids modeling, Pro-Fem for 3-D finite element modeling, Pro-Link for 3-D finite element analysis linking, Pro-Fea for 3-D finite element analysis, Pro-Draft for 2-D drafting and Pro-Hook a link between Pro-Solid and other drafting systems including VersaCad, AutoCad and Anvil 1000.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $8,000-$19,250

CATRONIX CORP.

☐ CatSoft
CAE system for mechanical design. CatSolid provides CSG-based solids modeler with Boolean operations and B-rep capability. CatFem acts as 2D/3D Finite Element Modeler. CatFace interfaces to FEA. IGES interfaces to CAD/CAM systems.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 8 since 1982 ☐ Cost: $20,000

COMPUTER SOFTWARE TECHNOLOGY

☐ Axisymmetric Multiple Layer Orthotropic Shells
Analysis of axisymmetric shells made of composites or bidirectional material properties. Isotropic and up to three layer sandwich structure analyzed under linear, pressure and temperature loads.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $290

☐ Axisymmetric Thin Shells with Symmetric Loadings
Analyzes isotropic shells under axisymmetric loads. Analyzes cylindrical, conical or any vessel described by conical sections.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $88

☐ General Disk Design
Designs disk to satisfy stress constraints, given material and acceptable stress distribution.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $180

☐ Low Cycle Fatigue by Universal Slopes
Calculates number of low cycle fatigue cycles to failure given high-low stress and loading history.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $190

☐ Rotating Beam/Disks Vibration
Turbomachinery applications. Obtains natural frequencies of shafts with disks.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $160

☐ Secondary Creep
Computes strain time history of elements in sections for prismatic structures using Larson Miller parameters.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $155

☐ Symmetric Disk Design
Given thin disk with midplane symmetry, under speed, loads and temperatures, program computes stresses and displacements.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $160

☐ Torsional Dynamics
Subjects 20 torsional stations to torsional inputs. Computes natural frequencies and dynamic responses. Useful for gearbox analysis.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $255

☐ 2-D Plane Thermal Stresses
Analyzes 2D structures with temperature maps.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $265

CTS ENGINEERING, INC.

☐ Automatic Pipe Sizing
Performs pressure drop calculations. Stores pipe schedule data. Calculates density and viscosity of 10 liquids/gases by temperature. Allows any pipe diameter or fluid properties to be used in calculations. Calculates total line loss. Performs hydraulic calculations on segmental basis.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 30 since 1984 ☐ Cost: $395

☐ Belt Conveyor Design
Performs design calculations for bulk material belt conveyors. Calculations include belt tensions, motor horsepower, starting torque, minimum radii for vertical curves, counterweight requirements, backstop requirement, acceleration and deceleration. Handles up to 10 straight sections with lengths to 3,000 feet.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 30 since 1983 ☐ Cost: $1,250

☐ Belt Sizing
Selects belt width when tons per hour and type of material being conveyed is known. User inputs trough angle, surcharge angle, material density, maximum belt speed and tons per hour. Calculates new speed required to convey selected tons per hour if selected belt is overridden and new belt selected.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 28 since 1983 ☐ Cost: $160

☐ Combustion Plus
Performs combustion calculations on weight or volumetric basis. Determines boiler efficiency using ASME method. Performs forced draft and induced draft fan calculations.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 20 since 1984 ☐ Cost: $350

☐ **MOD-ES1 (Modular Energy Simulator)**
Simulates industrial steam/electrical generation plants. Allows tracking of pump, fan and process steam demands with boiler production or other parameters. Performs summer/winter energy studies, equipment addition evaluations, plant efficiency studies and analyzes operational changes. Results available as numeric printout or graphic flowsheet.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $1,995

☐ **Shaft Design**
Companion to Belt Conveyor Design. Sizes shafts needed in conveyor design. Determines minimum diameter for shafts loaded transversely and/or torsionally. For any shaft that is solid, circular, constant diameter cross-sectioned; supported at only 2 points; or where transverse load is composed of 2 vector components.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 30 since 1983 ☐ Cost: $300

MARCEL DEKKER, INC.

☐ **Spring Design with and IBM PC**
Designs helical, compression, extension and torsion springs. Furnishes hard copy of design specifications and parameters, stores information and designs on diskette. Includes tables, equations and line drawings.
IBM PC ☐ Cost: $85

DESMAC CORP.

☐ **Spring Editor**
Designs springs. Includes helical compression and extension design for round wire, compression for rectangular wire, nested spring system, helical torsion, leaf, symmetric and cantilever, cone disk, material properties file, spring identification and spiral.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $200

DYNACOMP, INC.

☐ **Analysis of Plane Grids**
Analyzes plane grid structures. Calculates out-of-plane displacements and x and y axis rotations at joints, shear forces, torsion moments, bending moments, and section top and bottom stresses at member ends. Analyzes support settlement case.
IBM PC ☐ 48 KB req. ☐ Cost: $50-$120

☐ **Analysis of Plane Trusses**
Analyzes determinate and indeterminate plane truss structures. Calculates horizontal and vertical displacements at joints, and axial forces and stresses in members. Analyzes support settlement case.
IBM PC ☐ 48 KB req. ☐ Cost: $50-$120

☐ **Mechanical Engineering 1**
Collection of programs designed for use with Calfex. Contains selections on applied math, stress and strain, fluid flow and dynamics.
IBM PC, PCjr ☐ 48 KB req. ☐ Cost: $200

ELITE SOFTWARE DEVELOPMENT, INC.

☐ **Commercial Building Energy Analysis Program**
Calculates 24-hour loads four days per month per year for project with 1,000 zones and 100 air systems. Outputs monthly heating/cooling loads, costs and economic analysis evaluating, initial and annual costs. Simulates central plants and air handler systems.
IBM PC ☐ 56 KB req. ☐ Copies sold: 950 since 1982 ☐ Cost: $695

☐ **Commercial Heating and Cooling Loads Program**
Uses 1985 ASHRAE Handbook of Fundamentals tables and procedures. Over 1,000 zones entered and grouped under 100 air systems. Each zone, system and building individually peaked. Building rotation, exterior shading, psychrometrics, internal operating profiles, reheat and sub-cooling, and pretreated air.
IBM PC ☐ 56 KB req. ☐ Copies sold: 1,575 since 1980 ☐ Cost: $595

☐ **Duct Sizing**
Calculates optimal round and rectangular duct sizes using either static region, equal friction, or constant velocity method. Reports include matter input data, trunk output data, runout output data, sheet metal and duct fitting BOMs with costs, and duct system summary.
IBM PC ☐ 56 KB req. ☐ Copies sold: 895 since 1983 ☐ Cost: $395

☐ **Fire Sprinkler Design**
Performs hydraulic calculations in accordance with NFPA 13 standards. Allows trees, grids and hybrid systems with up to 200 pipe sections. Allows all types of pipe materials and fittings. Produces manually verifiable reports concerning flow rates, hydraulic pressures, water velocity and friction losses.
IBM PC ☐ 56 KB req. ☐ Copies sold: 525 since 1984 ☐ Cost: $695

☐ **Residential Heating and Cooling Loads Program**
Uses table values and procedures from 1985 ASHRAE Handbook of Fundamentals. Handles over 1,000 zones grouped under 100 air systems. Peak loads and air quantities calculated for each zone, system and residence. Building rotation, exterior shading, psychrometrics and manual J requirements.
IBM PC ☐ 56 KB req. ☐ Copies sold: 850 since 1983 ☐ Cost: $295

☐ **Static Regain Duct Sizing Program**
Calculates optimal round and rectangular duct sizes. Uses static regain method with Colebrook's friction equation for sizing. Input allowed for ducts with up to 150 trunks and runouts. Outputs optimal trunk and runout sizes with BOM.
IBM PC ☐ 56 KB req. ☐ Copies sold: 975 since 1982 ☐ Cost: $395

☐ **U-Factor Calculations**
Generates u-factors for roof and wall sections. References file containing r-values for over 200 different types building materials. Scrolls r-values through on-screen windows. Displays resulting u-factor as material types are selected. Allows all types of air film and air space resistances.
IBM PC ☐ 56 KB req. ☐ Copies sold: 725 since 1983 ☐ Cost: $99

ENGINEERING SOFTWARE CO.
(division of Infotech Management, Inc.)

☐ **CAM**
Determines profile of disk cam. Motion types include harmonic, cycloidal and eighth-order polynomials. Roller types include offset translating flat-face, offset translating roller, oscillating flat-face and oscillating roller. Generates polar and cartesian coordinates of CAM profile and cutter positions.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $275

☐ **Compress**
Design of helical compression and tension springs. Incorporates material properties for 5 common spring steel alloys. Outputs number of coils, spring rate, solid height, wire diameter and factor of safety. Handles static and fatigue loading.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $395

☐ **Compression Springs**
Designs or validates compression and extension springs. Includes graphics of spring design and library of 14 common spring materials. Calculates wire diameter, number coils, mean diameter, spring rate, critical tension, working stress, fatigue life, weight, critical frequency, stress in hooks and solid height.
IBM PC, AT ☐ 128 KB req. ☐ Cost: $595

☐ **Control Systems**
Controls systems software. Determines model and transfer function forms of linear, constant coefficient, ordinary differential system. Tabulates and plots frequency response calculations for linear and decibel vs. log frequency. Determines necessary pole gains for single output.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $750

☐ **Equation Solver**
Memory resident pop-up solver with 114 pre-programmed functions. User programmable. Inputs results directly to screen. Includes graphics of calculator.
IBM PC, AT ☐ 70 KB req.

☐ **FREQRESP**
Tabulates and plots frequency response calculations for linear and decibel vs. log frequency.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $250

☐ **Gear Design**
Helical and spur gear. Calculates bending and surface stresses for tip or highest point of single tooth contact loading including nonstandard involute tooth forms.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $595

☐ **Geometric Properties**
Calculates property area, composite rectangular cross sectional area property, cross sectional area property, thin walled property and volumetric property.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $295

☐ **Laminate**
Uses physical properties and orientation of each individual layer of filamentary composite plate to determine elastic behavior of composite. Calculates stresses, strains and margins of safety for each ply. Considers 100 layers of 50 materials.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $250

☐ **Mechanisms**
Analyzes planar mechanisms with revolute and slider joints. Considers kinematic and dynamic forces, output positions, velocity, acceleration and force data at each link. Provides graphical animation of mechanism.
IBM PC, AT ☐ 128 KB req. ☐ Cost: $595

☐ **Power Transmission**
Provides modules for spring determinations, belt and pulley analysis and design, stresses and deflections in determinate or indeterminate shafts, calculations for helical and spur gear and disk cam profiling.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 75 since 1983 ☐ Cost: $995

☐ **Properties of Thin Wall Sections**
Calculates properties of thin walled sections for open and closed multi-cell geometrics. Considers up to 5 different materials with up to 30 nodes and 30 segments.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $495

☐ **Shaft Design**
Calculates deflection and stress response of 3D loaded shafts to bending, torsional and axial loadings or specified support displacements. Uses Finite Element/Matrix Analysis methods.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 75 since 1984 ☐ Cost: $495

☐ **Spring Design**
Designs, draws and documents compression, extension and torsion springs. Validates spring specifications. Provides library of 14 common spring materials. Calculates working stress, fatigue life, weight, critical frequency, stress in hooks, spring rate, solid height, wire diameter, number of coils mean diameter and factors of safety.
IBM PC, AT ☐ 256 KB req.

☐ **StressPAC**
Calculates stresses, deflections and factors of safety in structural and mechanical elements.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $295

☐ **Torsion Springs**
Designs helical/spiral torsion springs. Screen graphics include spring cross section and dimensions. Calculates wire diameters, weight and performs fatigue analysis. Includes standard values of wire diameter for circular sections. Designs springs with rectangular and square sections.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $395

☐ **VBELT**
Belt and pulley analysis and design. Calculates belt type, number, length and pulley dimensions given input speed, horsepower, service and velocity ratio design requirements.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $295

☐ **Vibrapac**
Calculates undamped natural frequencies and mode shapes for beams, springs and plates. Hi-res graphics. Approximations of modal parameters. Uses closed form linear elastic solution methods and Raleigh's Method. Full screen editor and data entry calculator.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $495

ENGINEERING TECHNOLOGIES, P.A

☐ **Geardesigner**
Three volume series. Designs spur, helical and bevel gears or replacements. Minimum sizing of new gears, optimization of replacement gears or allowable loading. What-if comparisons using eight tooth forms and any bronze, steel or cast iron materials.
IBM PC ☐ 128 KB req. ☐ Introduced: 1982 ☐ Cost: $200 per volume; $550 per set

ENTEK SCIENTIFIC CORP.

☐ **EMODAL**
Used to measure the dynamic behavior of mechanical structures by measuring natural frequency, dumping and displaying animated mode shapes.
IBM PC, XT, AT ☐ 640 KB req. ☐ Cost: $3,950

☐ **EMONITOR**
Performs automated monitoring of machinery vibrations. Provides alarm indication, trending, plotting and DBMS.
IBM PC, XT, AT ☐ 640 KB req. ☐ Cost: $6,000-$10,000

☐ **ESHAPE**
Measures operating deflection shapes of rotating machinery and displays the animated shape on the CRT.
IBM PC, XT ☐ 640 KB req. ☐ Cost: $3,500

☐ **Minimonitor**
Checks machine's overall vibration levels or other process parameters against pre-established alarm levels and reports its operational condition. Downloads route information to data collector and uploads data. Reports exceptions, trend data and spectrum plots.
IBM PC, XT, AT, 3270-PC ☐ 640 KB req. ☐ Cost: $6,000

ERIS ENGINEERING ASSOCIATES

☐ **Crossflo**
Selects and designs cross flow turbines. Calculates basic parameters using design head and flow as input.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $200

ESDU INTERNATIONAL, INC.

(subsidiary of International Thomson Organization)

☐ **Aerodynamic Center - Wing/Fuselage Combinations**
Obtains position of aerodynamic center of conventional aircraft wing/fuselage combination. Computes dimensional data for wing and fuselage. Develops scale dimensioned sketch of aircraft. Color graphics capability.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Analysis of Forced-Damped Vibrating System**
Examines simple spring-mass-damper system vibrating in one plane. Vibrates in translation, in rotation or by swinging. Handles viscous, Coulomb or zero damping. Results in graphical and tabular form.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Analysis of Pressure Fluctuations in Turbulent Boundary Layers**
Obtains noise levels generated in attached turbulent boundary layer on cylindrical or conical parts of flight vehicle. Provides altitude and Mach number, temperature difference from ISA and distance behind leading-edge.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Design of Parallel-Axis Spur and Helical Gears**
Designs gears to meet required conditions. Compares performance of different designs. Input includes power transmitted, pinion speed, operating temperature, required life, material and its surface hardness method of manufacturing gear ratio, gear geometry, and center power loss, and operating torque.
IBM PC, XT, AT ☐ 128 KB req.

☐ **Elastohydrodynamic Film Thickness**
Chooses values for two out of temperature, film thickness and lubricant properties in contact zone of rolling element radial or thrust bearing, or of parallel axes gears, and obtains value for third.
IBM PC, XT, AT ☐ 128 KB req.

☐ **Hydrodynamic Journal Bearing Design**
Designs and studies performance of steadily-loaded pressure-fed hydrodynamic journal bearing. Outputs lubricant temperature, bearing eccentricity and film thickness, attitude angle, oil flow rate and power loss. Provides library of lubricants and of bearing materials.
IBM PC, XT, AT ☐ 128 KB req.

☐ **Hydrodynamic Thrust Bearing Design**
Designs and studies performance of steadily-loaded fluid film thrust bearing. Covers bearings with fixed inclined thrust pads or tilting pads. Computes lubricant temperature, film thickness, power loss and operating torque. Explores effects of varying load and speed.
IBM PC, XT, AT ☐ 128 KB req.

☐ **Low Speed Lift and Drag-Staggered Surfaces**
Obtains total drag of pair of lifting surfaces and lift break-down between them, and investigates effect of geometry variation and change in relative disposition of surfaces.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Rolling Element Bearing Selection**
Selects appropriate rolling element bearings for arrangement of 2 or more bearings or checks whether existing bearings arrangement is satisfactory. Considers single row radial ball, angular contact and cylindrical roller bearings. Contains data base of over 350 designs of ISO metric bearings.
IBM PC, XT, AT ☐ 128 KB req.

☐ **Rotor Dynamics - Geared Systems**
Obtains frequencies and mode shapes of lower torsional modes of vibration of geared system. Computes geometry and properties of shaft and components attached to it.
IBM PC, XT, AT ☐ 128 KB req.

☐ **Rotor Dynamics - Hydrodynamics Journals**
Obtains frequencies and mode shapes of lower lateral and torsional modes of vibration of shaft running in hydrodynamic journal bearings. Computes geometry and properties of shaft, components attached to it, and bearings.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Rotor Dynamics - Rolling Bearings**
Obtains frequencies and mode shapes of lower lateral and torsional modes of vibration of shaft running in rolling element bearings. Computes geometry and properties of shaft, components attached to it, and bearings.
IBM PC, XT, AT ☐ 128 KB req.

EXERGETIC SYSTEMS, INC.

☐ **Ex-Air**
Calculates thermodynamic properties for moist air. Provides range for dry bulb temperatures, wet bulb temperatures and total pressures. Includes interactive and callable routines program types. Performs property, 2-sided heat transfer, turbine efficiency and fan efficiency calculations.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $350

☐ **Ex-Flow**
Calculates mass flow rates through nozzles, venturi, orifices and pilot tubes. Compiles with ASME fluid meters and performance test codes. Provides internal access to fluid property data. Includes water, combustion gases and psychrometrics properties. Prints reports. Supports color.
IBM PC, XT, AT ☐ 460 KB req. ☐ Introduced: 1986 ☐ Cost: $620

☐ **Ex-Foss**
Analyzes fossil-fired boilers. Shows how controllable parameters offset boiler efficiency in dollars/hours gain or loss. Optimizes boiler's performance against constraints of operational and mechanical limitations.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $3,100

☐ **Ex-Gas**
Calculates gas properties for temperatures ranging from cryogenic to 2,200 degrees F. Provides 2 types of programs including interactive and callable routines. Calculates 2-sided heat transfer, turbine efficiency and fan efficiency. Provides water/steam and dry air properties. Supports color.
IBM PC, XT AT ☐ 320 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $200

☐ **Ex-Prop**
Calculates water/stream properties. Includes subcooled, saturation, super-heated and supercritical regions. Performs energy balances with cell-driven formats like spreadsheet programs. Supports color.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $300

☐ **Hyprop**
Collection of programs describing various hydraulic properties. User can link modules to applications. Divides hydraulic parameters in sublibrary into 2 groups, programs calculating true transparent properties and programs yielding parameters more directly involved in hydraulic analysis. Supports color.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $620

FLOWNET

☐ **FLOWVIEW**
Scaled displays of network on monitor with emphasis on system pressures, flow velocities and losses per unit length and/or contour pressure lines. Prints results. Works in conjunction with two FLOWNET distribution network analysis programs.
IBM PC, XT, AT ☐ Cost: $550

☐ **KYGAS**
Calculates flow and pressure conditions in complex gas distribution networks with components including compressors, pressure regulators, check valves and minor losses. Accounts for different tempatures in lines. Graphics capability for network layout and layout presentation.
IBM PC ☐ 256 KB req. ☐ Copies sold· 10 since 1985 ☐ Cost: $950

☐ **STEAMNET**
Determines steady state flow and pressure conditions in steam distribution network. Accounts for superheat in specified lines. Components included are multiple supplies, pressure regulators, check valves and fitting. Graphics capability to display network layout and highlight results.
IBM PC ☐ 256 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $950

E. JESSUP, MECHANICAL ENGINEERS

☐ **FCHART 1-2-3**
Calculates solar heating system performance, annual fraction of heating load supplied; beam, diffuse, and ground-reflected radiation; space and water heating loads and monthly fraction by solar. Input meteorological data for location, space heating load, temperature and collector data.
IBM PC ☐ 256 KB req. ☐ Copies sold: 10 since 1983 ☐ Cost: $60

☐ **HVAC 1-2-3**
Calculates duct and pipe sizes and sound. Calculates pressure drop in each section based on flow, duct attenuation, bend attenuation, branching losses, end reflection effect, room absorption effect and resultant sound pressure level in room.
IBM PC ☐ 256 KB req. ☐ Copies sold: 248 since 1983 ☐ Cost: $100

☐ **Load 123**
Calculates 24-hour building heating and cooling loads. Heating loads calculated for transmission losses and infiltration; cooling loads for condition, solar, internal loads, and infiltration. Library of roof and wall types; operation schedules; graphs. Handles 250 zones per run.
IBM PC ☐ 512 KB req. ☐ Copies sold: 250 since 1983 ☐ Cost: $120

JP AXE ID

☐ MKAD (Machinery Kinematics and Dynamics)
Kinematic and dynamic analysis of planar machinery. Models mechanical systems in motion and calculates position, velocity and acceleration of moving parts. Calculates forces and torques acting on/within system.
IBM PC ☐ 256 KB req. ☐ Copies sold: 3 since 1986 ☐ Cost: $1,250

SAMUEL J. LEVY ENGINEERING

☐ Tolculator (Tolerance Calculator)
Mechanical design and geometric tolerance analysis. Includes sampling and analysis, limits and fits, positional tolerance, gauge formulas, tolerance circuit and probability analysis, coordinate machine output inspection analysis, mathematics, trigonometry and quadratics.
IBM PC, XT, PCjr ☐ 512 KB req. ☐ Copies sold: 50 since 1986 ☐ Cost: $125-$150

NATIONAL PLANNING & CONSULTING CORP.

☐ HYDRASEL
Solution of fluid handling system component problems. Handles centrifugal and rotary pumping units. Examines suction and discharge piping systems. Determines control valve sizing coefficient for liquid, gas and vapor services involving normal or choked flow, laminar or transitional. Utilizes ANSI/ISA standards for value sizing.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $395

☐ SELECTRA
Mechanical power transmission component selection system. Determines shaft diameters using accurate selection and close approximation. Determines systems of standard ANSI roller chain drive components. Selects components for heavy-duty conventional V-belt and heavy-duty narrow V-belt.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $295

PATHTRACE, INC.

☐ Pathcad
CNC machining system. Production of scrap sections and stretching of designs with dimension adjustment. Supports differing colors and thicknesses for finished drawings. CAD to CAM and CAM to CAD data transfer, detail enlargements and area and moments of inertia calculation.
IBM XT, AT

☐ Pathmill
Milling and machining center system for defining such tools as endmills, drills, taps and facemills. Includes graphical representation of profiles, fixtures and clamps. Offset calculation capability. Pocketing and area clearance cycles. User-specific radius compensation. Canned cycles independent of CNC control.
IBM XT, AT

☐ Pathpunch
Punching and nibbling system. Graphical display of clamps, sheet size and table size. Multiple profiles or hole patterns. Allows profile viewing with dynamic screen nesting. Pocket clearance and notching cycles. Allows cutting on 1 or both sides of standard tool shapes.
IBM XT, AT

☐ Pathtrace Computer Aided CNC Programming System (Basic Module)
Tool library and geometry facility for converting engineering drawing detail into absolute, incremental or relative coordinate information. Tangential, radial and intersecting variations. Circle to circle, retrospective and manipulation commands. Screen scaling. Zoom. Parametric facility for family of parts programming and construction facility for side calculations.
IBM XT, AT

☐ Pathtrace 3D Surface Machining
Utilizes 2D profiles from Pathtrace's Computer Aided CNC Programming System geometry section and combines them to define 3D surfaces which are displayed on screen as wire frames. Requires that each surface have flowline representing surface's center line or closed 2D profile (outline).
IBM XT, AT

☐ Pathturn
Mechanical engineering oriented CAM system. Utilizes machine canned cycles to prevent long part programs. Machining cycles, pocket clear, mirror, rotate and translate functions. Post-processor portfolio base. DNC capabilities and 3D visualization of machined part in solid model form.
IBM XT, AT

PC ENGINEERING PROGRAMS, INC.

☐ PC-Pipe
Thermal and weight stress analysis on 3D piping systems. B31.1 or B31.3 piping code.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 56 since 1983 ☐ Cost: $1,650

SDA TECHNICAL SERVICES

☐ DESICOMP
Programs include mechanics, spring design, fluid flow, principal stresses in solids, moments of inertia, loadings, torques.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $75

STRESS ANALYSIS ASSOCIATES, INC.

☐ Torsvibs
Computes torsional dynamics of machinery elements. Computes torsional frequencies of shaft represented as series of lumped masses connected by torsional springs. Provides frequencies and mode shapes of modeled machinery elements. Computes modal excursions when force applied.
IBM PC ☐ 128 KB req. ☐ Copies sold: 35 since 1984 ☐ Cost: $225

TANOAK SOFTWARE, INC.

☐ Conversions
Unit conversions program, 50 conversion categories for engineering, scientific and general purpose. Accesses over 500 units of measure. Decimal or exponential format.
IBM PC ☐ 128 KB req. ☐ Cost: $49

TECHDATA

☐ COMPRESS: Computer Aided Pressure Vessel Design
Designs pressure vessels per ASME Code, Section VIII. Calculates required wall and head thicknesses, MAWP new and corroded, hot and cold, possible failure routes, nozzles, effects of earthquakes and wind. Designs skirt and anchor bolts.
IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1985 ☐ Cost: $2,800

TECHNICAL RESEARCH SERVICES, INC.

☐ API Tank and Tall Tower Design and Estimating
Covers design, estimating and layout of ASME and API vessels. Consists of 7 programs entitled estimate, apitank, talltower, layout, nozzel velocities, tube layout and TEMA fixed tubesheet design.
IBM PC ☐ 48 KB req. ☐ Cost: $1,340

☐ ASME Code Vessel Design
Consists of six programs which make basic computations required by ASME Code for design of unfired pressure vessels. Also includes code related topics not addressed by code.
IBM PC ☐ 48 KB req. ☐ Copies sold: 10 since 1982 ☐ Cost: $1,010

☐ Beam Formulas
Provides reactions, shears, moments, deflections and angles of rotation of beam ends under loading. Provides data for plotting shear, moment and deflection. Handles two or more concurrent beam loadings. Over 50 cases covering most possible types of loading.
IBM PC ☐ 48 KB req. ☐ Copies sold: 2 ☐ Cost: $595

☐ Local Stress in Vessel and Attachment
Four programs determine stress in local area of nozzle-to-shell interface when under loads induced by piping, thermal effects, seismic or dead loads and internal pressure. Performs reverse operation of determining allowable loads. Can apply to vessel supports and lugs.
IBM PC ☐ 48 KB req. ☐ Copies sold: 12 since 1982 ☐ Cost: $600

☐ Seismic Analysis
Used for horizontal vessel mounted on two saddle supports and vertical vessel on four lug-type supports. Requires MICA and CGCAL programs (included) and STRSC program (included in Local Stress in Vessel and Attachment package) for complete report.
IBM PC ☐ 48 KB req. ☐ Copies sold: 7 since 1982 ☐ Cost: $590-$785

TECHSOFT

☐ PV-Sys/1
Pressure vessel materials calculator. User inputs pressure, diameter, material type and corrosion allowance. Calculates elliptical and hemispherical heads, plate and pipe shells, and nozzle neck thickness. Stores data in customer file. Provides printout upon request.
IBM PC ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $90

UNIVERSAL TECHNICAL SYSTEMS

☐ TK SolverPack for Mechanical Engineering
Equations, values and tables for solving frequently encountered problems. Model topics include planar and cylindrical heat transfer, area moment of inertia and fluid flow. User-tailored models.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $100

UNIVERSITY OF KENTUCKY

Civil Engineering Software Center Division

☐ Firenet
Provides detailed hydraulic verification of fire protection sprinkler system. Accommodates multiple supplies, loops, booster pumps and sprinklers with different K factors. Locates remote area for gridded systems.
IBM PC ☐ 256 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $300

VAN GULIK/OLIVER, INC.

☐ BAP (Boiler Analysis Program)
Calculates boiler efficiency, fuel consumption air and stack gas flow based on fuel used and stack conditions. Contains expandable fuel files for fuel data input, steam table algorithms and gas analysis conversion procedure.
IBM PC ☐ 128 KB req. ☐ Copies sold: 4 since 1985 ☐ Cost: $275

WILEY PROFESSIONAL SOFTWARE

(division of John Wiley and Sons, Inc.)

☐ Combustion
Computes efficiency of boilers and process heaters based on standard combustion calculation methods. Determines fuel gas heat losses. Handles all standard fuels and special fuels such as wood wastes and industrial by-products based on specific chemical and thermal characteristics.
IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $275

☐ Curvfit
Curve-fitting analysis on user supplied data to determine best-fit equation for distributions including exponential inverse, polynomial, square root, linear, power and logarithmic. Uses method of least squares. Handles 500 data points. Data sets may be segmented for piecewise curve-fitting.
IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $95

☐ Cylinder and Shock Absorber Analysis
Calculates for known situation or assists in selection of standard cylinder based on user limiting criteria of time or acceleration and fluid velocity. Outputs velocity-time-distance relationship plus thrust, fluid velocity, GMP, energy requirements, stopping force, deceleration, stroke and time.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $125

☐ Fluidflo
Computes pressure losses and pumping power of pipe flows. Contains internal tables of pipe characteristics, water properties, standard pipe fittings. Enters data directly from piping layouts. Uses English or SI units.
IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $185

☐ Gasprops
Computes thermodynamic properties of gases including Air, Argon, Carbon Monoxide, Carbon Dioxide, Hydrogen, Nitrogen, Oxygen, Water Vapor. User inputs any 2 independent properties. Calculates remaining dependent properties, specific heat as constant volume/pressure, ratio of specific heats and acoustic velocity.
IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $185

☐ Heatflo
Computes heat losses from insulated/uninsulated pipes and flat surfaces in any situation where process temperature is higher than ambient temperature. User may alter 1 or more input parameters without affecting other parameters. Carries out what-if parametric studies. English or metric units.
IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $185

☐ Steamcalc
Computes thermodynamic properties of steam and water in superheated, subcooled, supercritical and mixture regions. Calculates saturation, temperature, pressure, enthalpy, internal energy, specific volume, entropy and quality. User chooses combinations of input parameters for desired information at given conditions.
IBM PC, XT ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $185

PROJECT MANAGEMENT

ABRACADATA, LTD.

☐ Everybody's Planner
IBM PC ☐ Cost: $100

AGS MANAGEMENT SYSTEMS, INC.

☐ Estiplan-Project Estimating System
Provides estimates for project resource time and costs. Handles system development projects including new development, enhancements/maintenance and purchased packages. Formats data for transfer to project management system such as PAC Micro, PAC II and PAC III.
IBM PC, XT, AT ☐ Copies sold: 45 since 1984

☐ PAC Micro
Critical path scheduler. Provides windowing and color graphics including pie, bar and network charts. Schedules project based on duration, effort and resource availability. Uses target start/finish dates. Accounts for holidays. Develops budgets. Generates reports. Interfaces PAC II, PAC III, Lotus and WordStar.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $990; $25,000 (site license fee)

AIMS+PLUS, INC.

☐ Timetools
Add-on module for AIMSPLUS and ARMS. Time analysis and scheduling dealing with numerical information vs. time. On-screen graphics for visual comparisons. Recalculates numeric data to reflect date changes. Displays data records by date in week, month and 10-day increments.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $800-$1,000

AMERICAN COMPUTER GROUP, INC.

☐ Quickplan
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $995

APPLIED BUSINESS TECHNOLOGY CORP.

☐ Advanced Project Workbench
Links Gantt chart, resource allocation spreadsheet and critical path network through multiple windows. Produces resource aggregation reports from multiple projects. Runs on LANs.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 8,000 since 1983 ☐ Cost: $1,150

☐ Standard Project Manager Workbench
Resource allocation, electronic Gantt chart, critical path calculations, status monitoring, time data capture, activity library, project costing, dynamic scaling, multi-level reporting, LAN support and subproject capability. For flagged activities, specific range of dates or in phase, activity or task level of detail.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $750

☐ Standard Project Workbench
Integrates Gantt charts, CPM networks and resource spreadsheets for project management. Supports resource leveling and what-if analyses. Import/export facilities allow interface with micro-based and mainframe systems. Tracks indicating status, revision of start/end dates, booking of time, and time-to-complete.
IBM PC, XT, AT, 3270 PC

APPLIED DIGITAL COMMUNICATIONS

☐ CPM MGR.
Monitors budgeted vs actual costs, projects end date. Reports include early/late start and finish dates, float items, estimated vs actual cost, critical path, work status and progress/precedence relationships.
IBM PC ☐ 256 KB req. ☐ Copies sold: 10 since 1981 ☐ Cost: $2,000

APPLIED MANAGEMENT SCIENCES CORP.

☐ F-A-S-T Software Project Management System
Coordinates each phase, sub-phase, task sequentially. Initiates/collects task strings. Generates documents. Data base creation, management, updating.
IBM PC ☐ 256 KB req. ☐ Cost: $40,000

APPLIED MICROSYSTEMS, INC.

General Systems Division

☐ Empact
Manages up to 100 projects containing 250 activities each. Produces 8 business-quality status and loading reports and 5 Gantt Charts. Activities are maintained with spreadsheet-like editor or interactive gun-sights in Gantt Charts.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $150

☐ Protracs
Tracks up to 100 projects containing 150 activities each. Produces 6 business-quality status and loading reports and 4 Gantt Charts in 2-month or annual formats. Offers gun-sights, zoom, sort/search, calculator and custom calendar.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 15,000 since 1983 ☐ Cost: $60

APPLITECH SOFTWARE, INC.

☐ Project Planner
Draws PERT charts. Performs what-if analysis on durations, costs, resources, structure and organization. Supports hi-res graphics.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $195-$295

ASHTON-TATE

☐ Project Analysis
Defines, organizes and plans each step of new project. Lists personnel and special skills for task requirements. Compiles resources to meet project requirements.
IBM PC, XT, AT ☐ Cost: $70

BREAKTHROUGH SOFTWARE CORP.

☐ Time Line
Project scheduling management. Handles unlimited tasks, dependencies, resources and cost categories. Partial resource allocation. Levels overscheduled resources. Enters fixed, variable and unit costs up to $99,999,999. Prints reports and exports directly to Lotus 1-2-3, Symphony and dBASE III.
IBM PC ☐ 256 KB req. ☐ Copies sold: 20,000 since 1984 ☐ Cost: $295-$995

THE BRIDGE, INC.

☐ Project Manager Workbench
IBM PC

COADE

(division of International Thomson Information, Inc.)

☐ Viewpoint
Handles unlimited number of projects, activities, resources, and costs. Supports multi-calendar, connections, and hierarchy levels. Planning support, touch control, structured planning, and retained experience. Plotter graphics available. Coordinates multiple activities. User-oriented design.
IBM PC ☐ 512 KB req. ☐ Cost: $2,000

COMPUTER AIDED MANAGEMENT

☐ ViewPoint
Project management system. Drawing board environment. What-if analysis. Mouse or keyboard access. Find activity, shrink, magnify, cut, copy, paste and move functions. Outputs time-scaled network diagrams, Gantt and PERT charts, resource and cost profiles and network tree diagrams.
IBM XT, AT ☐ 512 KB req. ☐ Cost: $1,195

COMPUTER ASSOCIATES INTERNATIONAL, INC.

☐ CA-Planmacs
Expert planning/knowledge-based project management. Produces baseline/action project plans. Working with generated action plans, user monitors project progress and reports status. Applies estimating information from CA-Estimacs to produce completion plans.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $15,000 (2 copies)

COMPUTER ASSOCIATES INTERNATIONAL, INC.

Micro Products Division

☐ SuperProject Plus
Uses PERT, Gantt and CPM. Provides resource calendars, variable resource usage rates, resource leveling and support of cross-project resource leveling.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 10,000 since 1984 ☐ Cost: $495

COMPUTER SOFTWARE TECHNOLOGY

☐ PERT I and PERT II
Computes critical path/time slacks of 60 tasks with PERT I or 400 tasks with PERT II.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $120 (PERT I); $260 (PERT II)

COMPUTERLINE

☐ Plantrac
Project management system with project scheduling, resource and cost management and graphics. Allows for 125,000 activities per project and 100 subprojects. Schedules projects in minute/hour durations of less than one day. Includes what if simulator and desktop calendar, calculator and screen shot.
IBM PC, AT, XT ☐ 64-128 KB req. ☐ Cost: $3,000

☐ Plantrac-EV
Produces revenue projection report, revenue projection graph, payments estimate report, and project status and revenue analysis report.
IBM PC, XT, AT ☐ Cost: $300

☐ Plantrac-T
Time recording system. Records and tracks manhours and produces time sheet analysis reports.
IBM PC, XT, AT ☐ Cost: $450

☐ Plantrac-1
Project scheduling system. Analyzes I/J and Precedence networks. Tracks project process. Interfaces with Plantrac/CS.
IBM PC, XT, AT ☐ Cost: $1,600

☐ Plantrac-2
Resource management system. Calculates resource requirements based on early or late dates and compares requirements/availabilities. Reschedules resources to constraints or to minimize usage.
IBM PC, XT, AT ☐ Cost: $800

☐ Plantrac-3
Cost management system. Calculates costs by priod on days worked, resources and activity overhead costs, compares planned to budgeted and actual costs and calculates cost progress.
IBM PC, XT, AT ☐ Cost: $600

☐ Plantrac-4
Depicts projects in logic and bar charts on screen, printer and plotter.
IBM PC, XT, AT ☐ Cost: $800

☐ Plantrac/CS
Project control and monitoring system. Integrates cost/contracts, time and resources for budgeting, planning, analysis and simulation. Includes user-defined data base/WBS, graphics and report writer. Interfaces with Plantrac.
IBM PC, XT, AT ☐ Cost: $3,000

☐ PSR
Performance summary reporting system. Produces graphic and tabular analysis of cost/schedule and manpower/schedule performance. Projects forecasted completion dates and manpower.
IBM PC, XT, AT ☐ Cost: $500

CORPORATE CONSULTING CO.

☐ Project and Job Cost Accounting
Project cost management/accounting for government contractors, construction, architectural and engineering companies. Records project labor and material costs. Prints weekly labor distribution. Prints project status report. Maintains PO/project commitment control.
IBM PC ☐ 256 KB req. ☐ Copies sold: 20 since 1978 ☐ Cost: $10,000

DAI, INC.

☐ APPRAIS
Utilizes standard or customized WBS (work breakdown structure) for cost estimating. Historical cost data base may be built and used for comparisons to current estimates. Facilitates analysis of differing plans for single project, alternate projects, and historical projects vs planned efforts. Analytical report output.
IBM PC ☐ 256 KB req. ☐ Copies sold: 3 since 1986 ☐ Cost: $1,095

DATA CONSULTING GROUP

☐ DATA*EASY Project Scheduler
Projects are displayed in screen graphics format showing up to 14 tasks simultaneously. Data is displayed on daily basis showing user-defined status codes. Up to 10 weeks of data displayed at one time.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $78

DATA TREK
(division of Interface, Inc.)

☐ PMS82
Critical path calculations with calendar dating, cost and budgeting options. States activity durations in work days and assigns responsibility code or crew number to each activity. Up to 200 activities or categories for each project may be defined.
IBM PC ☐ 48 KB req. ☐ Copies sold: 200 since 1982 ☐ Cost: $100

DATAMATICS MANAGEMENT SERVICES, INC.

☐ Time Accounting System 302
Client, task and project management. History, status, inquiry/demand reports.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 12 since 1980 ☐ Cost: $2,250

DATAMENSION

☐ Project Manager
IBM PC ☐ 192 KB req. ☐ Cost: $499

DATAWRITER CORP.

☐ Fast MOD
MODAPTS analysis, data manager, time study, work sampling and regression analysis. Labor standards generation, work measurement and predetermined time system. Accepts multiple codes on line as in manual practice. Search, macro-motion, formula generation, footnote and error detecting.
IBM PC, XT, AT ☐ Cost: $4,300

☐ Fast MSD
Generates labor standards. Supports time study, work sampling and regression analysis. Handles longer-cycle and noncyclic operations. Uses MSD motion codes. Handles all simos, awarding overlap time as needed. Search, macro-motion, formula generation, footnotes and error detecting.
IBM PC, XT, AT ☐ Cost: $4,300

☐ Fast MTM
Develops standard data using data manager, MTM-1, MTM-2 and time study. Includes work sampling for auditing standards, determining allowances, and setting standards on staff labor, and regressional analysis for developing formulas from historical data.
IBM PC, XT, AT ☐ Cost: $5,900

☐ Fast Time
Generates labor standards. Work measurement and predetermined time system. Includes data manager, time study, work sampling and regression analysis.
IBM PC, XT, AT ☐ Cost: $3,500

DAVIS & ASSOCIATES, INC.

☐ PC/MIS (Project Cost/Management Information System)
Project oriented data management system.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $69

DECISION SCIENCE SOFTWARE, INC.

☐ EXPERT
Solves problems using PERT. Defines starting/ending events with optimistic, most likely and pessimistic time estimates and manpower, money or machines demand. Prints solution and critical path by nodes or events and activity name.
IBM PC ☐ 48 KB req. ☐ Introduced: 1983 ☐ Cost: $125

DEKKER, LTD.

☐ Trakker and Trakker Plus
Performs project scheduling and resource/cost tracking. Trakker Plus adds performance measurement and earned value tracking.
IBM XT, AT ☐ 384 KB req. ☐ Cost: $750 (Trakker); $1,500 (Trakker Plus)

DIGITAL MARKETING CORP.

☐ Milestone
Plans, budgets, schedules and tracks projects. Performs what-if testing to determine impact of manpower/supplier alternatives. Divides projects into individual activities. Alters plan in response to changes.
IBM PC ☐ 56 KB req. ☐ Cost: $99

DYNACOMP, INC.

☐ Personal Task Manager
Organizes daily and long-range tasks and prioritizes them. Estimates, schedules and controls amount of time each task takes.
IBM PC ☐ 96 KB req. ☐ Cost: $40

DYNAMIC SOLUTIONS, INC.

☐ PERT6
Multiple project reporting, user-defined reports and audit trails. Multi-user. Up to 32,000 activities per project. What if analysis. Unlimited projects.
IBM XT, AT ☐ 96 KB req. ☐ Copies sold: 32 since 1972 ☐ Cost: $10,000

EARTH DATA CORP.

☐ MicroDOD
Costs and time on project are tracked and compared with initial projection. Complies with Department of Defense Regulation 7000 for reporting earned value and variance. Runs at regular time intervals to monitor progress. Calculates differences between projection and actual progress.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $100

☐ MicroGANTT
Interactive project management that calculates schedule and budget. Prompts data needed to build project plan which includes critical path network. Schedules across projects or contracts and shows how individual or resource is allocated.
IBM PC, XT, AT, Portable, PCjr ☐ 128 KB req. ☐ Introduced: 1982 ☐ Cost: $395

☐ MicroGANTT-22
Prompts for data from which it calculates schedules and budgets. Provides multiple project resource allocation. Supports optimal management of production and research and development projects. Limits size of subproject to 22 tasks. Defines larger projects using network of subprojects.
IBM PC ☐ 128 KB req. ☐ Cost: $195

☐ MPERT
Produces report in form of network diagram or work flow chart. Depicts projects as boxes and triangles, connected to show relationships among tasks, subprojects or resources. Generates charts of projects created with MicroGANTT.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $100

ELECTRONIC RESEARCH ASSOCIATES, INC.

☐ Project Manager
Provides visual aid for managing projects. User can draw tasks on terminal and establish dependencies with interconnecting lines. Graphics interface. Horizontal/vertical scrolling. Draws large networks on multiple pages.
IBM AT ☐ 640 KB req. ☐ Copies sold: 3 since 1985 ☐ Cost: $595

ELITE SOFTWARE DEVELOPMENT, INC.

☐ CPM/PERT (Critical Path Method and Job Scheduling Programs)
Defines and evaluates up to 700 activities in network. Reports include critical path, activity schedule Gantt chart in bar graph form. Includes user-defined holidays, printer output options, special workday modes, user-defined calendar files and disk storage of project data.
IBM PC ☐ 56 KB req. ☐ Copies sold: 1,050 since 1982 ☐ Cost: $249

EMERGE SYSTEMS

☐ GPERT
Details activity schedules/resources loading requirements. Permits probabilistic time estimates and constraint dates.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $195

ERTL ASSOCIATES

☐ TMS (Turnaround Management System)
Work orders, manhour estimates, staffing, critical path schedules, resource histograms, bar charts, daily shift schedules, daily detailed and summary progress reports.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1982 ☐ Cost: $45,000

EXPERTWARE, INC.

☐ CMT (Configuration Management Toolkit)
Controls approved software, hardware inventories and documentation for all configurations of software product. Maintains, tracks and provides reporting on problem reports. Identifies references to or from elements in product components. Generates UNIX make files that build product for testing or delivery.
IBM PC, AT ☐ 1,000 KB req. ☐ Copies sold: 10 since 1985

☐ DST (Documentation Support Toolkit)
Provides formatting capabilities for document creation and maintenance, including headers, footers, section headings, tables of contents and indexes. User selects and fills in templates to produce forms which can be retrieved, displayed, modified, sorted or saved.
IBM PC, AT ☐ 1,000 KB req. ☐ Copies sold: 3 since 1986

GANTT SYSTEMS, INC.

☐ Pack Work Processor
Planning, scheduling, project tracking/control and resource management. Draws critical milestone and Gantt charts. Highlights early/late activities. Projects scheduled in dates, days, hours, minutes. Permits what-if questions and alternative project schedule evaluations. Data base structure permits search/sort. Shows project/resource status.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 250 since 1980 ☐ Cost: $225

GARLAND PUBLISHING, INC.

☐ Pathfinder
For project planning. Uses CPM for 500 activities. On-line critical path schedule, expertise, cash flow, work-day calendar conversion, what-if scenarios, time-scaled Gantt charts.
IBM PC ☐ 48 KB req. ☐ Copies sold: 200 since 1980 ☐ Cost: $299

GORDON GROUP

☐ BYL (Before You Leap)
Knowledge-based project estimation and scheduling. Forecasts detailed loading requirements by task across major time phases of project. Allows cost effective evaluation of project management scenarios. Produces single estimate for macro estimation. Evaluates 150 components/modules per project for micro estimation.
IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $495

IBM PERSONALLY DEVELOPED SOFTWARE

☐ Project Planning and Scheduling
IBM PDS no. 6276-500. Outputs plan upon entry of details and stages of each project. Indicates which tasks take place simultaneously and which are sequential. Calls out important activities that must be tracked. Estimates time of completion. Provides time/cost analyses. Color EGA support.
IBM PC, XT, AT, Portable PC ☐ 128 KB req. ☐ Cost: $150

INFORMATION TECTONICS

☐ GHL Cocomo
Cost estimation model. Features 3 levels of detail, multi-project structure, data retention, sensitivity analysis and what-ifs. Data describing any number of projects or variations of project may be entered, stored, copied, displayed, compared and edited.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 26 since 1984 ☐ Cost: $395

INSTITUTE OF INDUSTRIAL ENGINEERS

☐ Project Management
Features critical path analysis, project evaluation and review techniques, resource allocation and activity on-node network analysis.
IBM PC, XT ☐ 48 KB req. ☐ Copies sold: 830 since 1982 ☐ Cost: $175

KELAR CORP.

☐ PROJECAD
Graphic interface/file conversion program which converts drawings created by Primavera software to data interchange files used by AutoCAD and VersaCAD.
IBM PC ☐ 512 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $595

K & H PROJECT SYSTEMS, INC.

☐ CUE
Planning/scheduling, estimating, costing and performance measurement. Optional graphics, data management, corporate accounting, GL and purchase agreement control. Designed for shipbuilding, construction, utility, aerospace and defense industries.
IBM PC ☐ 500 KB req. ☐ Copies sold: 100 since 1980

☐ Prestige PC Project Management System
Project control system. Utilizes precedence and arrow diagramming network techniques. Provides time analysis critical path method, resource levelling, activity costing, relational DBMS and network and gantt bar chart graphics.
IBM XT, AT ☐ 512 KB req. ☐ Introduced: 1986 ☐ Cost: $5,000

LIONHEART PRESS, INC.

☐ PERT and Critical Path Techniques
Produces critical path with costs and estimates of probability of completion as scheduled upon entry of activity data for normal and selective or full crash costs and times.
IBM PC ☐ 64 KB req. ☐ Copies sold: 600 since 1984 ☐ Cost: $95 and up

MAINSTAY SOFTWARE CORP.

☐ WBS Data Organizer
Performs cost analysis with RCA Price Hardware model output. Creates and dynamically rebuilds project work breakdown structure as additions, changes and deletions are made to model.
IBM XT, AT ☐ 640 KB req. ☐ Cost: $3,995

MAINTENANCE AUTOMATION CORP.

☐ Chief Software Project Management Module
Maintenance project management.
IBM PC ☐ 512 KB req. ☐ Cost: $3,900

MC2 ENGINEERING SOFTWARE

☐ M2M (Critical Path Project Management)
Project scheduling. Prints PERT report, Gantt chart showing critical tasks, float days, early/late start date and project completion time. What-if studies. Task reorganization mid-project. Accommodates 40 holidays, variable work weeks and 3 year projects.
IBM PC ☐ 64 KB req. ☐ Copies sold: 200 since 1980 ☐ Cost: $295

METIER MANAGEMENT SYSTEMS, INC.

☐ Artemis
Project MIS. Identifies slippages and reports schedule performance. Performs risk assessment, cost control and planning analysis. Includes DBMS, graphics and communications.
IBM PC, XT, AT, RT ☐ 512 KB req. ☐ Copies sold: 2,700 since 1977 ☐ Cost: $5,000

MICRO PLANNING SOFTWARE USA

☐ Micro Planner
Project management. Plots Critical Path (or PERT). Pinpoints resource overloads. Optimizes usage of available resources. Progresses and updates schedules. Produces exception management reports. Provides simultaneous modeling.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 2,000 since 1981 ☐ Cost: $395-$1,995

MICRO PLANNING SYSTEMS, INC.

☐ Micro Planner
Suitable for projects with up to 4,000 activities. Uses critical path analysis. Establishes earliest/latest dates throughout project. Multiple calendars. Activity/event types include overlapping, summary, key events, nonsplit and reverse logic. Provides resource/progress management and exception management reporting.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $495-$1,995

☐ MP-500
Suitable for projects with up to 500 activities. Features resource leveling across multiple projects, progress reporting to compare actual vs. plan, exception management reporting and multiple archives to compare alternative scenarios.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $495

MICROMEC

☐ Task Tracker
Creates data base of tasks which details description, due date, completion date, comments and priority. Accepts up to 140 tasks. Prints reports on tasks upcoming, tasks overdue and priorities.
IBM PC ☐ 256 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $25

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ Microsoft Project
Spreadsheet-style layout, individual resource and cost tables, graphics displays of schedules and resource utilization/reporting. Includes what-if capabilities. Optional Microsoft Mouse.
IBM PC ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $250

MICROSYM, INC.

☐ SympLCPM
Simplified CPM. Handles calendar projects. Reports for project costs, billing and resource management. Provides Gantt charts for each resource code.
IBM PC ☐ 128 KB req. ☐ Copies sold: 25 since 1982 ☐ Cost: $945

MITCHELL MANAGEMENT SYSTEMS, INC.

☐ Micro-MAPPS (Management and Project Planning System)
Macro modeling and decision support capabilities. Handles networks of up to 32,000 activities and manages multiple phases of large-scale projects. Includes integrated graphics program, multi-project resource leveler and resource utilization programs, micro-macro roll-up and TAILS scheduling technique.
IBM RT PC ☐ Introduced: 1986 ☐ Cost: $12,000

☐ Quick-Plan
Builds project plans based on time, cost and resources. Handles 250 activities, 99 resources and 500 connectors for each project. Contains report writer and cost matrix utility.
IBM PC ☐ 384 KB req. ☐ Copies sold: 4,250 since 1984 ☐ Cost: $995

☐ Time-Plan
Scheduling programming including precedence diagramming, time lags and four connectors. Handles 150 activities and 300 connectors for each network schedule. Includes TAIL for networking.
IBM PC ☐ 256 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $129

MONITOR SOFTWARE

☐ Task Monitor
Schedules precedence relationships between activities with positive/negative lags. Creates network. Keeps 3 working schedule models and 1 base line or reference schedule. Identifies critical path. Generates network, time-phased logic diagrams and Gantt charts. Tracks dollars/hours for each activity. Supports subprojects.
IBM PC ☐ 512 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $695

MORGAN COMPUTING CO., INC.

☐ EasyGANTT

Produces Gantt chart showing critical path. Sets up projects with 3,160 activities. Prioritizes sequence of steps to be accomplished. Updates project while underway and recalculates schedule as necessary. Does not handle resources or PERT charts.

IBM PC, AT, XT, PCjr ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $49

NATIONAL INFORMATION CONSULTANTS, INC.

☐ Management Information System

GL, AP, AR and payroll. Provides detailed or summary project information.

IBM PC ☐ 64 KB req. ☐ Copies sold: 25 since 1983 ☐ Cost: $1,995

NATIONAL INFORMATION SYSTEMS, INC.

☐ Vue

Multi-project distributed project management. Analyzes alternatives. Develops contingency plans. Includes report writer. Provides 5 levels of report summarization. Provides printer/plotter graphics.

IBM XT, AT ☐ 640 KB req. ☐ Copies sold: 200 since 1980 ☐ Cost: $995

NATIONAL SOFTWARE ENTERPRISES, INC.

☐ Project Management System

Personnel resources management provides reports on activity and progress of individuals, teams, projects and departments. Collects data at any time by activity. Displays current tasks for each individual. Provides internal calendar and department load report.

IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $850

NEWKIRK MANAGEMENT SERVICES, INC.

☐ PASCO

Prepares budgets, system development, maintenance and operations. Anticipates when OS should be replaced. Monitors cost for maintaining OS. Evaluates staff performance. Aids project cost/time estimating. Monitors change control, chargeback and backlogs.

IBM PC ☐ 512 KB req. ☐ Copies sold: 5 since 1984

ROBERT E. NOLAN CO.

☐ Nolan/Prompt (PROject Modeling and Performance Tracking system)

Projects Inventory, Project Modeling, Performance Management, Staff Management, Management Reporting and Life Cycle Standards modules. Tracks, prioritizes and schedules projects. Individual performance measurement for programmers and analysts. Modeling and reporting function for DP projects and activites.

IBM PC ☐ 512 KB req. ☐ Cost: $40,000

NORTH AMERICA MICA, INC.

☐ BPS-II (Batch Processing System)

Designed for use with NAMICA's PMS-II. Calculates and generates reports unattended.

IBM PC ☐ 128 KB req. ☐ Copies sold: 150 since 1983 ☐ Cost: $95

☐ GPS-II

Subsystem to PMS-II. Printer graphics support. Converts PMS-II and RMS-II network diagrams, bar charts, graphs and histograms into graphic presentations without mainframe plotters. Uses dot-matrix printers. Provides time-seriesed, zone headed network diagram for network logic. Prints diagrams, graphs and histograms sideways.

IBM PC ☐ 128 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $495

☐ MMS-II (Material Management System)

Optional material management for PMS-II. 1,000 POs entered for 500 vendors and 32,000 line items of material allocated to PMS-II activities. Enters update material budget and actual values in PMS-11 and displays on activity report, funding schedule and earned value analysis.

IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $695

☐ Plot-II

Plotter support for PMS-II. Supports decimal and metric plotters and single-pen and multi-pen devices. Performs sort and select. Plots partial diagrams for special emphasis. Prints in expanded and standard character sizes. Positions plots on page using vertical/horizontal alignment.

IBM PC ☐ Cost: $695

☐ PMS-II

Project management scheduling. Calculates critical path and float for each activity within large/complex projects. Includes network diagrams, bar charts, budget analysis, what-if, networking and project cloning.

IBM PC ☐ 128 KB req. ☐ Copies sold: 2,000 since 1980 ☐ Cost: $1,295

☐ RMS-II (Resource Management System)

Optional subsidiary resource allocation system for PMS-II. Defines 192 resource centers. Produces activity reports and bar graphs showing percent allocation over time for one or more resources. Allows 32,000 allocations to activity in PMS-II project.

IBM PC ☐ 128 KB req. ☐ Copies sold: 700 since 1980 ☐ Cost: $995

☐ Teamplan

Manages file control for PMS-II. Enables 2 to 26 LAN or multi-user system users to run PMS-II simultaneously by maintaining separate files.

IBM PC

OMICRON

☐ Plan/Trax

Plans, schedules and monitors projects with 700 tasks and 10 labor resources for 5 years. CPM or Gantt scheduling methods. CPM network graphics and resource leveling included. 15 reports.

IBM PC ☐ 320 KB req. ☐ Copies sold: 1,000 since 1982 ☐ Cost: $795

OPEN SYSTEMS, INC.

(subsidiary of Uccel Corp.)

☐ Project Estimating

Predefined spreadsheet designed for project control and estimate vs actual functions. Prepares formal project estimates for clients. For law, accounting, architectural and consulting firms. What if projections. Allocates expenses across job timeframe. Shows estimated costs, updated billing totals and resulting profit.

IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $395

PALADIN SOFTWARE CORP.

(division of Integrated Automation)

☐ VisiSchedule

Project planning, scheduling, resource leveling, critical paths, project length, manpower level and costs.

IBM PC, XT, AT ☐ 48 KB req. ☐ Cost: $149-$195

PINNELL ENGINEERING

☐ PMS80 Advanced Package

Timescale network diagram for printing activities with relationships. Uses dot matrix printers. Optional modules include Resource Forecasting, Cost Estimating and Accounting, Project Financial Status, Summary Bar Chart with Earned Value, Schedule Comparison, Screen Manager and Macro.

IBM PC ☐ 512 KB req. ☐ Introduced: 1981 ☐ Cost: $2,500

☐ PMS80 Basic Package

Reporting for scheduling, contractor's payment request, cash flow forecasts, and bar chart with comparison and earned value.

IBM PC ☐ 512 KB req. ☐ Introduced: 1981 ☐ Cost: $995

☐ PMS80 Basic Package Plus Timescale Arrow Diagram

Timescale network diagram for printing activities with relationships. Uses dot matrix printers.

IBM PC ☐ 512 KB req. ☐ Introduced: 1981 ☐ Cost: $1,500

☐ PMS80 Data Base Manager with Applications Software

Screen manager, report writer, file manager and scheduler. Generates, uses and modifies included application or creates new applications. Applications provided include materials control, change order management, AR/AP and income/expense journal, multi-project management and cost estimating.

IBM PC ☐ 512 KB req. ☐ Introduced: 1981 ☐ Cost: $1,500

☐ PMS80 Plotter Graphics Module

Timescale arrow diagram, percent complete curve and cash flow curve. User-defined, multi-color graphics.

IBM PC ☐ 512 KB req. ☐ Introduced: 1981 ☐ Cost: $1,500

☐ PMS80 Timecard Module

Posts CRT-screen timecard to project files for cost accounting and to individual file for use by payroll system.

IBM PC ☐ 512 KB req. ☐ Introduced: 1981 ☐ Cost: $1,200

PLANNING CONTROL INTERNATIONAL

☐ EASYTRAK Project Management System, ET/COPROCESSOR

Scheduling, costing, resource management for aerospace/defense, R and D, and pharmaceutical companies. Maintains unlimited projects and activities, networks, multiple calendars, inter-project dependencies, global updates, tiered subnetworking and multiple levels of WBS. What-if capability.

IBM XT, AT ☐ 128 KB req. ☐ Copies sold: 85 since 1983 ☐ Cost: $9,500

POC-IT MANAGEMENT SERVICES

☐ MicroMan Project Control System

For information services. Workload control for project and non-project activities. Unlimited number of projects and resources per project. Project and management reporting, scheduler and monthly financial reports for cost accounting and chargeback.

IBM PC ☐ 256 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $1,195-$1,450

PRIMAVERA SYSTEMS, INC.

☐ Finest Hour

Multiple calendar/hourly, scheduling version of Primavera Project Planner. Controls schedules, costs and resources for high-intensity, short duration projects. Optionally interfaces with Primavera's Primavision for producing time-scaled bar charts and network logic diagrams. Custom reporting with user-defined sort, selection, content and format.

IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 150 since 1986 ☐ Cost: $5,000

☐ Primavera Project Planner

Controls schedules, costs and resources using critical path analysis. Tabular/graphic reports. Handles 10,000 activities within any work breakdown structure. Supports earned value analysis. Optionally interfaces with Primavera's Primavision plotter graphics system for producing time-scaled bar charts and network logic diagrams.

IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 2,700 since 1983 ☐ Cost: $2,500

PROJECT CONTROL SYSTEMS

☐ PLANFLOW

Forecasts cash flows of capital projects. Supports reforecasting of to-go costs based on actuals. Includes user-definable distribution curves, automatic escalation, and monthly/annual incremental/cumulative reports with subtotals. Graphs to any screen or printer.

IBM PC ☐ 128 KB req. ☐ Introduced: 1983 ☐ Cost: $99

PROJECT RESOURCES OF OHIO CORP.

☐ PSP Series
Estimate handling system with data base for creation and maintenance of capital cost estimates. Features security, index generator, file manager, codes and lists directories, and report ordering section.
IBM PC ☐ 256 KB req. ☐ Copies sold: 3 since 1985 ☐ Cost: $13,500

PROJECT SOFTWARE & DEVELOPMENT, INC. (PSDI)

☐ QWIKNET - 500/250/125 Activity Models
Project management capabilities include planning and scheduling through CPM analysis, target scheduling, cost and resource management, progress reporting, and what-if analysis. Four types of logic relationships. Elapsed or working calendar. Twenty-one reports with multi-level sorting capabilities for customized reports.
IBM PC ☐ 384 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $895 (500 Activity); $695 (250 Activity); $395 (125 Activity)

QUADRAM

(subsidiary of Intelligent Systems Corp.)

☐ Deadline Manager
Performance/deadline data in seven reports and four Gantt charts. Highlights overdue tasks.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 150 since 1985 ☐ Cost: $149

QUALA

☐ Taskmanager
Schedules 999 tasks by start/completion dates, department, person, project and sub-project. Tracks person hours and percent complete. Reports and Gantt charts.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 2,168 since 1982 ☐ Cost: $395

RIVERDALE SYSTEMS DESIGN, INC.

☐ Entrepreneur's Project Management Workplate
Utilizes Gantt/Pert and CPM techniques. Automated scheduling of multiple projects, cost estimates, status reporting and manpower needs.
IBM PC ☐ 256 KB req. ☐ Copies sold: 120 since 1985 ☐ Cost: $90

RMS MANAGEMENT SYSTEMS, INC.

(division of MAST Resources, Inc.)

☐ CT4
Project management and productivity control. Integrated planning, budgeting, scheduling and cost/time control for construction, manufacturing and services. Supports multiple projects.
IBM PC ☐ 256 KB req. ☐ Cost: $1,800-$5,500

SAS INSTITUTE, INC. (NC)

☐ SAS/OR Software
Operations research and project optimization tool. Product scheduling and general assignment problems. CPM and linear programming. Determines minimum/ maximum cost flow and shortest path through network. Solves transportation problems. Requires base SAS software.
IBM PC, XT, AT, AT/370, XT/370/VM/PC ☐ 512 KB req. ☐ Copies sold: 859 since 1983

SCHUCHARDT SOFTWARE SYSTEMS, INC.

☐ IntePERT
Calculates critical path, displays PERT and Gantt charts. Project details transferrable to Schuchardt Software's InteCalc and IntePlan.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 1,500 since 1983 ☐ Cost: $249

SCITOR CORP.

☐ Project Scheduler Network
Schedules up to 2,000 jobs per project and up to 999 resources per job. Total number of jobs and resources dependent on available memory. Provides resource planning, graphics and selectable report generation. Allows sub-tasking. Creates network diagrams and Gantt charts.
IBM PC, XT, AT ☐ 320 KB req. ☐ Introduced: 1985 ☐ Cost: $495

☐ Project Scheduler 5000
Handles forecasting, scheduling, control and tracking of project status. What-if capabilities. Handles 5,000 tasks. Produces reports and spreadsheet-compatible cost/resource data.
IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1983 ☐ Cost: $345

☐ Project Scheduler 5000 + Graphics
Handles forecasting, scheduling, control and tracking of project status. Calculates critical path. What-if analysis. Handles 5,000 tasks. Supports resource allocation, labor usage and cost spreads.
IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ Cost: $395

SENTINEL COMPUTER CORP.

☐ Project Management System
Handles unlimited number of projects, events and resources. Multiple starts/stops in arrow/precedence networks. Provides fuel schedule analysis including critical path.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 6 since 1983 ☐ Cost: $5,000

SHEPPARD SOFTWARE CO.

☐ MicroPERT 0 Project Management System
Produces time-scaled network diagram. Handles 220 events. Facilities to construct, maintain, manipulate and back up project data base. Stores on hard disk. Charts can be printed sideways on IBM and Epson printers.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 400 since 1983 ☐ Cost: $250

SHIRLEY SOFTWARE SYSTEMS

☐ Mister (Management Information System for Time, Expenses and Resources)
Identifies potential time, resource and cash flow problems. Resource scheduling, bar charts, plotter, cost reporting, executive summarization and report generator.
IBM AT, XT, PC ☐ 512 KB req. ☐ Copies sold: 50 since 1967 ☐ Cost: $5,000

SIMPLE SOFTWARE, INC.

☐ ProjectMaster
Results-oriented tool to plan and manage small-to mid-sized projects. CPM, resource allocation, extended leveling, schedule risk, project acceleration and multi-project rollup.
IBM PC, XT, AT, 3270-PC, PC/370, PCjr ☐ 128 KB req. ☐ Copies sold: 1,100 since 1984 ☐ Cost: $399

SOFTCORP, INC.

☐ Advanced PRO-JECT 6
Supports CPM. Subtasking allows model linking and sub-project task summarization. Displays resource allocations. Permits partial completion based on percentage. Summarizes costs. Produces bar charts and to-do lists. Transfers data to Lotus 1-2-3, WordStar and dBASE II/III.
IBM PC, XT, PCjr ☐ 128 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $199

SOFTEXT PUBLISHING CORP.

☐ Scheduling and Control
Includes project layout, timetables, Gantt charts, PERT and CPM.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $95

SOFTPOINT

☐ Softpoint PMS
Assists project managers in preparing project schedules based on CPM and PERT techniques.
IBM PC ☐ Cost: $395

SOFTRAK SYSTEMS

☐ MicroTrak
Generates calendars/schedules, allocates/tracks resources, evaluates what-if scenarios. Conversion utility available to share data with other programs.
IBM PC ☐ 128 KB req. ☐ Copies sold: 4,500 since 1983 ☐ Cost: $595-$895

☐ PlotTrak
CPM network diagram and bar chart plotting. Takes schedule files generated by MicroTrak project manager and enables user to format, generate and output to a plotter time-scaled network diagrams and bar (Gantt) charts.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,500 since 1984 ☐ Cost: $395-$595

SOFTWARE PUBLISHING CORP.

☐ Harvard Total Project Manager
Includes roadmap, schedule tracking, cost tracking, resource allocation, reports, minimum/negative slack, subprojects and calendar. Cross-project resource allocation. Graphics capabilities. On-screen actual vs. planned project information. Creates projects at roadmap. Multiple and synchronized windows.
IBM PC, XT, AT ☐ 384 KB req.

SOURCEVIEW SOFTWARE INTERNATIONAL

☐ Project PERT
Provides small-medium businesses with PERT. Number of events connected limited by disk space.
IBM PC ☐ Cost: $99

☐ Task Master
Organizes time and projects. Things-to-do today file provides detailed breakdown of projects with tasks. Prioritizes and estimates time needed. Future tasks allows user to set start and completion dates for projects. When start date is reached, future task becomes today's task.
IBM PC, XT, AT ☐ 64 KB req. ☐ Cost: $40

SPEAK SOFTLY, INC.

☐ Public Process Planner
For use by school district/hospital administrators and local governments in project planning and task analysis. Utilizes time lines and target dates to prioritize tasks and assign responsibilities. Recalls by task, area of responsibility, or target date.
IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $95

STATE OF THE ART, INC.

☐ Job Cost System
Tracks project costs including estimated costs, actual costs and cost variances. Details project cost information by labor or materials. Provides 16 costing and estimating reports. Posts project-related expenses and labor costs when used with AP and Payroll systems. Provides current revenue and cash receipt information when used with GL.
IBM PC, XT, AT ☐ Cost: $695

STRATEGIC SOFTWARE PLANNING CORP.

☐ PROMIS - Project Management Integrated System
Scheduling, resource management and cost control in planning and control phases of projects. Includes subnetworking, multi-project reporting, resource constrained scheduling, MDBS data base architecture, DIF functions, reports and graphics.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 500 since 1984 ☐ Cost: $2,995

SYSTONETICS, INC.

☐ VISIONmicro
Creates input networks on screen. Allows uploading and downloading to VISION project management system operating on Prime or DEC VAX computers. Provides standard reports and graphics.
IBM PC ☐ 512 KB req. ☐ Introduced: 1985 ☐ Cost: $2,495

TIMEWARE

☐ Timeplan
Schedule planning and status reporting.
IBM PC ☐ Introduced: 1982

TITANIA PUBLICATIONS

☐ Everybody's Planner
Creates project plans and flow charts. Supports plans for up to 5 years. Plans can have 54 tasks and 216 resources. Uses 18 rotatable flowchart shapes in 9 sizes. Vertical and horizontal labeling. Uses color to flow sequence. Uses mouse.
IBM PC ☐ Cost: $100

TOM SOFTWARE, INC.

☐ Project Management Information System
Supports multiple burden rates. Handles integrated project estimating. Forecasts demand for labor, inventory, purchases and equipment.
IBM PC, XT ☐ 28 KB req. ☐ Copies sold: 45 since 1984 ☐ Cost: $800-$3,500

TRAC LINE SOFTWARE, INC.

☐ MAPS - Management and Planning Software
Diagram projects into networks of tasks. Locates bottlenecks.
IBM PC ☐ 256 KB req. ☐ Copies sold: 100 since 1985 ☐ Cost: $495-$695

TRAVELING SOFTWARE, INC.

☐ Project Manager
Handles quarterly projects over an extended period. Defines activity and task categories. On-screen and printed reports and graphs.
IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $100

TYDEN CONSULTANTS

☐ Project Costing/Crop Year Costing
Tracks costs across fiscal years by field/department/company/project. Accepts records from Tyden's GL. Holds 99 companies and 99 departments. Uses Quad relational DBMS.
IBM PC ☐ 128 KB req. ☐ Copies sold: 75 since 1982 ☐ Cost: $495

VISION SYSTEM, INC.

☐ Project Cost Control System
Project cost control for large projects. Separates projects into activities/transactions. Tracks budgets, encumbered expenses, actual expenses, variances to budget and revised budgets, and by vendor and PO. Break-out by ITC and non-ITC expenses. Behind schedule report function.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $1,000

WANG INSTITUTE OF GRADUATE STUDIES

School of Information Technology

☐ WICOMO Tool
Software cost estimation tool. Cost accounting, forecasting, project management and scheduling functions. Requires use of CRT. Estimates amount of effort, cost and schedule time per project based on its size and additional parameters.
IBM PC ☐ Cost: $200

WELCOM SOFTWARE TECHNOLOGY

☐ Open Plan
Project management. Integrates with dBASE III Plus. Graphics, report writer, and time, resource and cost modules. Supports 32,000 activities, ADM, PDM, 8 calendars, and unlimited resources.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $3,600

WESTMINSTER SOFTWARE, INC.

☐ Keeping-Tabs
Composite barchart illustrating planned and actuals. Schedule slippage analysis. Five-level sorting. Selective reporting. Budgets per activity. Actual spent amount for period. Calculates spent-to-date. Intermediate level sub-totals of budgetary items. Intermediate level percentage breakdown of budgetary values. Requires schedule plans created by Pertmaster.
IBM PC, XT ☐ Cost: $195

☐ Pertmaster
Critical path analysis. Uses activity-on-arrow and precedence networking. Analyzes 2,500 activities per network. Project/period bar-charts, histograms, milestone reports, cash flow curves, what-if projections, resource/descriptive coding. On screen network building. Used with Westminster's Pertplotter.
IBM PC ☐ 64-256 KB req. ☐ Copies sold: 15,000 since 1980 ☐ Cost: $695 (1,500 activities); $895 (2,500 activities)

WILEY PROFESSIONAL SOFTWARE

(division of John Wiley and Sons, Inc.)

☐ Project Manager
Critical path planning outlines tasks to be completed. Identifies potential time traps.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $125

WIND-2 RESEARCH, INC.

☐ One Plus
Financial management for architects and engineers. Consists of Business Management, Cost Proposal, GL, AP, and Payroll modules. Project invoicing, project management, employee management and AR. Provides quality control checks and audit trails.
IBM PC, XT, AT, XT/370, 3270-PC ☐ 128 KB req. ☐ Copies sold: 350 since 1984 ☐ Cost: $600-$4,500

SCIENTIFIC CALCULATIONS/PROCEDURES

AMERICAN DATA CABLE, INC.

☐ Temperature/Voltage/Resistance/Power Measurement System
Measures, records and graphs temperature, pressure, humidity and electrical parameters such as volts, ohms and amps. Up to 512 channels. Provides unit conversion by formula/table. Stripchart recording/plotting. Control interface has alarm setpoints and output management for process control. Converts units to any curve or function.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 1,600 since 1983 ☐ Cost: $150-$450

APTECH SYSTEMS, INC.

☐ Gauss Programming Language
Built-in editor. Interactive matrix programming. Direct access to DOS. Date and time functions. Hi-res graphics. Arithmetic, relational and logical operators. Reshape, sort, shift, rotate, reverse and manipulate elements of matrices. LINPACK, EISPACK and related algorithms. Numerical integration and differentiation.
IBM PC, XT, AT ☐ 320 KB req. ☐ Cost: $200

ASTROLABE

☐ Astro Star II
Supports 9 house systems, Uranian planets, transit scan, any kind of directional rate, sidereal zodiac, multiple composites, parans, and astro-mapping points. Allows different ways of analyzing aspects, midpoints, harmonics and angular separations. Chart files can be read by other programs.
IBM PC ☐ Cost: $295

☐ Nova
Supports 10 house systems, sidereal zodiac, midpoint sorts and trees, synastry and composites, and different progression and direction techniques. Lists transit, progression and direction hits in one chronological sequence. Nova Plotter Wheel available.
IBM PC, XT, Portable, PCjr ☐ 256 KB req. ☐ Cost: $245

ATLANTA SIGNAL PROCESSORS, INC.

☐ Digital Filter Design Package
Designs IIR and FIR digital filters. Prints frequency response plots, magnitude, log magnitude, phase group delay and delay. Prints impulse response plots. Supports design of multiband filters, differentiators, and Hilbert transformers. Version 2 supports design of FIR filters to piecewise linear magnitude response specification.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 190 since 1984 ☐ Cost: $995-$1,195

BEDFORD RESEARCH

☐ I*S*P
Integrates signal processing computations with data and file management. Data types handled include real/complex, integer, fixed point, floating point and double precision, character strings, flags, programs and data structures. Graphics functions include data plots in real, imaginary or polar format, or 2D/3D plots.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 40 since 1983 ☐ Cost: $1,295

BLAISE COMPUTING, INC.

☐ Sparky
Scientific, programmable calculator. Helps user evaluate mathematical expressions. Performs calculations during performance of another task.
IBM PC, XT, AT ☐ 100 KB req. ☐ Introduced: 1984 ☐ Cost: $75

C. ABACI, INC.

☐ Scientific Desk
Contains functions and subroutines covering typical problems in mathematics and statistics. Includes problem solving environments in eigenanalysis, high density fitting and plotting, path solving, linear equations and statistical inference and estimation. Includes standalone programs for scientific purposes.
IBM PC, XT, AT, RT ☐ 256 KB req. ☐ Copies sold: 325 since 1984 ☐ Cost: $660

CROSS EDUCATIONAL SOFTWARE, INC.

☐ Numerical Methods in Physics
Shows effects of adding rotation or friction using such mechanics systems as Skydriver, Projectile, Pendulum, Damped Harmonic Oscillator, Coupled Harmonic Oscillator, Circular Drumhead and Central Force Motion. Graphs or plots results.
IBM PC ☐ 64 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $40

CYBERENGINEERING CORP.

☐ CyberTools Astro Library
Astronomy, satellite tracking and celestial navigation programs. Calculates day of week, Umbral lunar eclipses, great crossings and rhumb lines, and stellar parameter. Time conversion, Julian date conversion, world navigation, star map displays, satellite finder and USAT tracking.
IBM PC

☐ Fougere's Maximum-Entropy Spectral Analysis
Provides spectral estimates in the presence of noise signals. Locates cycles in all types of data.
IBM PC ☐ Cost: $200-$300

DATA SYSTEMS (CA)

☐ **Constellation Finder**
Displays time of rise and set time/meridian transit for given constellation, time and coordinates. Contains data for 45 constellations visible in northern hemisphere.
IBM PC ☐ 16 KB req. ☐ Copies sold: 20 since 1983 ☐ Cost: $15

☐ **Navigational Star Identification**
Provides name and position of navigation star within 3 degrees when given star coordinates/position and time.
IBM PC ☐ 16 KB req. ☐ Copies sold: 10 since 1985 ☐ Cost: $15

☐ **Navigational Star Program**
Calculates visible navigational stars in order of increasing azimuth and coordinates. Contains coordinates and visual magnitudes of 57 primary stars used in navigation.
IBM PC ☐ 16 KB req. ☐ Cost: $35

DYNACOMP, INC.

☐ **Basic Scientific Subroutines Volume I**
Handles alphanumeric data plotting, complex variables and matrix operations, random number generation and series approximations, of sines, cosines, arctangents, naturals, base-10 exponents and logarithms.
IBM PC ☐ 16 KB req. ☐ Copies sold: 30,000 ☐ Cost: $17-$21

☐ **Basic Scientific Subroutines Volume II**
Handles least squares, series, and functional approximations by iteration and recursion, CORDIC approximation techniques and alternatives, table interpolation, differentiation and integration, finding of real roots of functions, finding of complex roots of functions and optimization by steepest descent.
IBM PC ☐ 16 KB req. ☐ Copies sold: 25,000 ☐ Cost: $15-$22

☐ **Basic Scientific Subroutines Volume III**
Seven basic sorting routines consisting of bubble, insertion, shell, a shell-metzner, butterfly-hart, heap and quick sorts.
IBM PC ☐ 48 KB req. ☐ Cost: $30-$33

☐ **Calfex and Calfex G/T**
Equation processor. Creates graphs and tables. Solves maxima and minima and simultaneous equations. Handles numerical integration and array or simple variables. Produces linear, log or semilog plots. Prints results tables and parametric graphs.
IBM PC, PCjr ☐ 48 KB req. ☐ Cost: $290

☐ **Data Smoother**
Provides means to least-squares smooth equally spaced data and plot results. Variation in each data point smoothed according to weighted average of points surrounding it. Average span is 3 to 25 points. Order is linear to quintic.
IBM PC ☐ 16 KB req. ☐ Copies sold: 3,000 ☐ Cost: $20-$27

☐ **Fourier Analyzer**
Examines frequency spectrum characteristics of defined duration signals. Input data Fourier transformed into frequency space descriptors of amplitude and phase displayed in tabular form. Input data and calculated results plotted at user's option. Input data set limited by host computer memory size.
IBM PC ☐ 16 KB req. ☐ Copies sold: 5,000 ☐ Cost: $20-$27

☐ **Halley's Comet Locator**
Displays star map showing exactly where comet will appear from specified latitude on specified date.
IBM PC ☐ 64 KB req. ☐ Cost: $30

☐ **Harmonic Analyzer**
Specific to repetitive wave forms of Fourier transfer. All data entry, storage, retrieval and editing features on Dynacomp's Transfer Function Analyzer included. Supports signal and transform plotting functions and cubic spline interpolation procedure to transform irregularly space data.
IBM PC ☐ 16 KB req. ☐ Copies sold: 5,000 ☐ Cost: $30-$37

☐ **Star Cal III**
Monthly sky calendar displays moon phases, lunar/solar eclipses, oppositions of Mars, Jupiter and Saturn, east/west greatest elongations of Venus, meteor showers, culmination of 85 constellations and miscellaneous events. Astronomical clock in local standard/daylight, civil and mean sidereal and GMT and GMST. Generates sky maps. Draws constellation patterns.
IBM PC, PCjr ☐ 64 KB req. ☐ Cost: $30

☐ **Transfer Function Analyzer**
Analysis of limited duration signals. Applies Fourier integral transform to provide frequency domain. Based on Dynacomp's Fourier Analyzer. Presents results in engineering terms. Input data may be plotted before calculations. Frequency domain results plotted.
IBM PC ☐ 16 KB req. ☐ Copies sold: 6,000 ☐ Cost: $26-$33

☐ **Weather Forecaster**
Predicts average temperatures for any day of year, heating degree days, cooling degree days, number of frost free days, growing seasons and corn heat units. Three day weather forecast. Predictions displayed include cloud cover/type/height, wind direction and speed, and weather movement direction and speed.
IBM PC ☐ 48 KB req. ☐ Cost: $40

ELSEVIER SCIENTIFIC SOFTWARE
(subsidiary of Elsevier Science Publishers)

☐ **Balance**
Compares means of two series of measurements. Parametric and non-parametric, independent and related, one and two-tailed, Students, and Cochran's, Wilcoxon matched-pairs signed-rank, and Mann-Whitney U-tests. Helps user match test with situation. Tests small and large numbers of observations.
IBM PC ☐ 48 KB req. ☐ Introduced: 1984 ☐ Cost: $150

ESDU INTERNATIONAL, INC.
(subsidiary of International Thomson Organization)

☐ **Buzz-saw Noise - Sound Pressure Level Estimation**
Obtains sound pressure levels to buzz-saw or combination tones generated in far-field outside intake duct of fan or compressor. Computes duct geometry, number of fan blades, their radius and rotational speed, blade and duct Mach numbers, and static pressure.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Lateral Attenuation of Air-To-Ground Noise**
Obtains lateral noise attenuation of turbo-jet or turbo-fan powered aircraft.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Noise Shielding by Barriers**
Obtains noise shielding due to diffraction around sharp edges of rigid wedge-shaped barrier having hard surfaces. Calculates barrier geometry, positions of noise source and observer in relation to barrier and their heights above ground.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Noise Spectra Correction - Ground Reflection**
Obtains effect on perceived noise, at point distant from source, of interference between noise heard directly by propagation through uniform still atmosphere and that heard by reflection from ground.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Response of Two-Degree-of-Freedom Systems**
Obtains response characteristics to any known forcing function of any system modeled by two coupled second-order constant-coefficient differential equations.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Sound Attention by Non-uniform Atmosphere**
Obtains attenuation of sound within frequency band as it propagates through non-uniform still atmosphere. Calculates gaseous absorption of sound. Computes band attenuation for up to 34 constant percentage or constant bandwidth frequency bands according to user's requirements.
IBM PC, XT, AT ☐ 192 KB req.

EXPERT-EASE SYSTEMS, INC.

☐ **EASE+ACSL**
Enables ACSL engineering program user to perform complex systems simulations. Supports hi-res graphical ACSL models. Generates input decks and plots results. Maintains data base of system models and results.
IBM PC, AT ☐ 640 KB req. ☐ Introduced: 1986 ☐ Cost: $4,450

HART SCIENTIFIC, INC.

☐ **Q.E.D.**
Data acquisition and control system. User can acquire, graph, mathematically manipulate, file and transfer data for scientific report generation. Windowing capabilities.
IBM PC, XT, AT ☐ 640 KB req. ☐ Introduced: 1985 ☐ Cost: $849

HEM DATA CORP.

☐ **Snapshot Storage Scope**
Digital storage oscilloscope and data acquisition system. Provides real-time collection and display of analog data. Supports triggers, cursors, zooming and selective recording/replaying of data to/from disk.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $495

HITACHI AMERICA, LTD.
Computer Sales & Service Division

☐ **DNASIS**
DNA analysis system.
IBM PC

HOLLIS GEOSYSTEMS CORP.

☐ **GeoTrak IMS**
Converts information from GeoPod 124 tapes into engineering units. Archives data. Allows user to enter into RS/1 system for mathematical and statistical analysis. Creates graphs from table data, direct input or functions, including x-y plots, bar graphs, pie charts and 3D graphs. Graph editor.
IBM PC, XT ☐ 256 KB req. ☐ Introduced: 1984

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ **ACRITH (High-Accuracy Arithmetic) FORTRAN Subroutines**
IBM no. 5664-185/01.
IBM XT/370/VM/PC ☐ Cost: $150

INFOMETRIX, INC.

☐ **Ein*Sight**
Exploratory multivariate analysis system. Identifies and graphically displays patterns of association in large data sets. Features include principle component analysis, centroidal hierarchical cluster analysis, and routines to calculate covariance and correlation matrices of user's data set.
IBM PC ☐ 640 KB req. ☐ Copies sold: 20 since 1985 ☐ Cost: $295

INNCON SOFTWARE

☐ **Scientific Plotting**
IBM PC, XT ☐ Cost: $20

INTERACTIVE MICROWARE, INC.

☐ **Chromatochart-PC**
Supports up to four channels of simultaneous data acquisition and control for GCs and HPLCs. Utilizes proprietary data compression algorithms to permit more raw data storage. Allows user to calculate, review, edit and store baseline information.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $800-$995

☐ **Curve Fitter**
Permits selection of appropriate curve for experimental results. Scaling and transformations, averaging, smoothing, interpolation and least square fitting.
IBM PC ☐ 48 KB req. ☐ Introduced: 1980 ☐ Cost: $35-$95

☐ Scientific Plotter
Receives input from keyboard, disk or end user subroutine. Controls length and position of each axis, grid size and interval between numbers. Color plotter enhancement available.
IBM PC ☐ 48 KB req. ☐ Introduced: 1983 ☐ Cost: $25-$95

INTERNATIONAL COMPUTING, INC.

☐ Unit Conversions
Performs 3,564 measurement conversions within 22 families of units. Displays results in decimal and scientific notation. Accuracy is 6 significant digits. Rounds results rather than truncates. Includes input mask and traps.
IBM PC, XT, AT ☐ 48 KB req. ☐ Introduced: 1985 ☐ Cost: $50

INTERNATIONAL LOGIC CORP.

☐ micro-Flush
Performs 3D analysis of soil-structure interaction during earthquakes. Features beam elements, 3D ability, deconvolution analysis capability and out-of-core equation solver. Includes 1D site-response and 2D dynamic finite element analysis programs and graphic post-processor.
IBM PC ☐ 256 KB req. ☐ Cost: $1,100-$1,400

JANDEL SCIENTIFIC

☐ Digital Paintbrush System
For scientific measurement and statistical analysis with presentation graphics. Charts and graphs output to dot matrix and color ink jet printers.
IBM PC, XT, AT ☐ 64 KB req. ☐ Cost: $229-$495

☐ Sigma-Plot
Produces scientific data plots. Includes error bars, log/linear scales, regression lines and unlimited data set size. Generates scatter, line, vertical/horizontal bar, grouped bar and horizontal/vertical histogram charts. Requires HP or compatible plotter.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $350

☐ Sigma-Scan
Performs scientific digitizing, area/linear measurement, angle/slope measurement and object counting. Produces descriptive statistics on measurement data. Generates, saves and transfers DIF or ASCII text files. Measures object position/area in photomicrographs, x-rays, maps, strip-charts and flat objects.
IBM PC ☐ 256 KB req. ☐ Cost: $395

K SOFTWARE HOUSE, INC.

☐ KSH-1 Scientific Calculator
Reviewed Jul 1986 p. 172.
Memory resident Scientific calculator that emulates HP-11C with 18 digit calculations. Hex, binary and octal operations including Boolean functions. Up to 512 program steps.
IBM PC ☐ 40 KB req. ☐ Introduced: 1985 ☐ Cost: $50

MACMILLAN SOFTWARE CO.

(affiliate of Macmillan Publishing Co.)

☐ ASYST
Provides arithmetic, trigonometric and hyperbolic functions, array manipulation, control of vectors and matrices, plotting, file manipulation, programming control structures, built-in text editors, eigenvalues, eigenvectors, polynomials, Fourier transform, least squares approximations, curve fitting, convolutions, integration, differentiation, and smoothing.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $795-$2,195

☐ Asystant, Asystant+
Integrated data reduction, analysis and display graphics. Array-based scientific calculator supports algebraic and RPN operation. Includes text editor and waveform processor. Plus version adds data acquisition.
IBM PC, XT, AT ☐ 640 KB req. ☐ Cost: $495 (Asystant); $895 (Asystant+)

MARCUS SYSTEMS

☐ MSYS Scientific Data Plotting and Analysis
Produces plotting with in-situ polynomial curve and equation plot capability.
IBM PC

THE MATHWORKS, INC.

☐ PC-MATLAB
Provides scientific and engineering mathematical calculations. Specializes in matrix computations. Includes eigenvalues, eigenvectors, matrix arithmetic, matrix inversion, linear equation solution, least squares, regression, determinants, singular-value decomposition and condition estimates.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $695

MICROWAY, INC.

SEE AD ON COVER 3

☐ 87SFL (Scientific Function Library)
Contains 170 mathematical subroutines for scientific, engineering and statistical calculations. Handles Fresnel, Dawson, exponential and elliptic integrals. Performs gamma, beta, psi, Kelvin, Airy and Bessel functions. Includes numerous polynomials, student's t-/F-distribution and inverses. Callable from FORTRAN, BASIC, Pascal and C.
IBM PC, XT, AT ☐ Cost: $250 and up

MITCHELL & GAUTHIER ASSOCIATES, INC.

☐ ACSL/PC
Dynamic system modeling. Integrates differential equations. Interactive or batch operations, compatibility with user-generated FORTRAN libraries, Gear's integration algorithm for stiff systems, access to variable dictionary via ACSL commands, no limit on program size, number of names, states or labels.
IBM PC ☐ 320 KB req. ☐ Copies sold: 250 since 1984 ☐ Cost: $1,900

NATIONAL INSTRUMENTS

☐ IEEE-488 Applications Guide
Tutorial on programming GPIB instruments. Describes over 50 instruments from vendors including HP, Tektronix, Gould and Fluke.
IBM PC

☐ Versaplot 9/GPIB-PC
Generates graphic output at high speeds. Controls Versatec V-80 electrostatic plotters via IEEE-488 bus. Includes library of compatible function calls.
IBM PC

NUMERICAL ALGORITHMS GROUP, INC.

☐ FORTRAN PC50 Library
Fifty FORTRAN routines. Covers zeros of polynomials and transcendental equations; Fourier transforms; quadrature; ordinary DEs; non-linear optimization; linear algebra; basic statistics; random numbers; linear programming. Shows how to input data, call a routine and print results. Allows user-developed programs.
IBM PC ☐ 192 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $345

PROCESS SYSTEMS INTERNATIONAL

☐ FLASHCALC
Performs flash calculations using Chao-Seeder/Gryson-Staged K-value correlations for multi-component streams containing hydrocarbon and non-hydrocarbon components. Handles 20 components per stream, including mixtures of inorganic, light hydrocarbons and petroleum fractions. Calculates enthalpy using Redlich-Kwong correlation.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 30 since 1983 ☐ Cost: $1,495

QUINN-CURTIS

☐ IPC-TP-006
Turbo Pascal science/engineering tools. Provides general-purpose procedures/functions for solving data analysis/graphics problems. Supports statistics, multiple regression, curve fitting, simultaneous equations, Fourier analysis, matrix math, complex number arithmetic, integration, differential equations, linear programming, file transfers, data smoothing and communications.
IBM PC, XT, AT ☐ Cost: $75

☐ IPC-TP-008
Metrabyte Dash-8 and Dash-16 Turbo Pascal data acquisition/control tools. General-purpose procedures, functions and utility programs for solving science/engineering data acquisition control problems. Supports analog/digital I/O, graphics and data logger.
IBM PC, XT, AT ☐ Cost: $100

RAPID SYSTEMS

☐ Digital Oscilloscope Peripheral/Spectrum Analyzer
Features four channels, 2MHZ sampling rate, 500 KHZ analog bandwidth and diode projection on inputs. Graphics uses up to 160 x 260 pixels for data display. Provides keyboard control of gain parameters for channels A, B, C, and D, time base values, number of channels and trigger mode.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $599

☐ Spectrum Analysis
Frequency resolution 1 Hz. Supports variable order of Fast Fourier Transform, up to order 1,024. Includes selectable time window, rectangular and Hanning. Voltage and power spectrum computation. Power spectrum averaging. Save/restore spectrums.
IBM PC, XT, AT ☐ 48 KB req. ☐ Copies sold: 300 since 1984 ☐ Cost: $295

RLJ SOFTWARE APPLICATIONS

☐ Scipack
Consists of monochrome monitor plot; hi-res plot for color monitor; numerical integration program; program to find real and complex polynomial roots; linear least squares regression program; and polynomial least squares curve fitting program.
IBM PC ☐ 64 KB req. ☐ Cost: $40

SCIENTIFIC ENDEAVORS CORP.

☐ GraphiC
Produces hi-res publication quality scientific and engineering color graphs. Approximately 100 C-callable routines. Provides 14 fonts, 8 curve markers and 4 curve types. Linear, log, polar, contour, bar, Smith charts and 3D plots available. Used with most C compilers.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $350

SIGNAL TECHNOLOGY, INC.

☐ ILS-PC 1,2
Signal processing system. Microcomputer version STI's ILS. Handles data acquisition, digital signal processing and filtering.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $995 (ILS-PC1); $1,495 (ILS-PC2)

SIR, INC.

☐ SIR/DBMS, The Intelligent Relational System
Scientific-oriented DBMS. Consists of nucleus relational DBMS with active data dictionary, graphics, forms data entry and retrieval facility, SQL+ query language, graphics module and host language interface. Features built-in intelligence. Supports interface to SPSS, SAS and BMDP.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 450 since 1980

SOURCEVIEW SOFTWARE INTERNATIONAL

☐ Halley's Comet Locator
Shows how to find Halley's Comet. Enters latitude and date of observation. Shows stars of different magnitudes, direction, degrees above or below horizon, and symbol for comet itself. Prints star map for future reference.
IBM PC ☐ Cost: $50

STELLAR SOFTWARE

☐ Beam 2 Optical Ray Tracer

Optical design system. Provides table editor, double-precision trace algorithm, interactive diagram routine, filing system, spot diagram routine and optimizer. Allows examination/modification of numerical system specification and ray description. Handles arbitrary skew rays. Generates rays of specified class.
IBM PC, XT, AT ☐ Cost: $90

SUNDERLAND SOFTWARE ASSOCIATES

☐ HP-PC Hypercalculator

Pop-up scientific calculator utility, emulates HP-11C, permits 2-way data transfer. Added features include hex/oct/bin arithmetic, alpha-numeric program messages, 100 registers and 1,000 program steps. State of all registers may be saved on disk. Programmable using any text editor. 8087 version included.
IBM PC ☐ 128 KB req. ☐ Copies sold: 800 since 1984 ☐ Cost: $40

TECHSOFT

☐ Math

Calculates circle sectors and segments. Finds unknown radius, angle, chord length, arc length or area. Calculates triangles and finds unknown angles or sides.
IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $40

TRACOR XRAY

☐ Spectrace 5000

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IBM PC, AT ☐ Cost: $55,000-$62,000

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☐ KRIGPAK

Companion to GEOPAK. Geostatistics covering graphics and statistical applications in geology and mining.
IBM RT, AT

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IBM RT, AT

UNKEL SOFTWARE, INC.

☐ Unkel Scope

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IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $349 (Level 1); $549 (Level 2+)

VECTORPLEX DATA SYSTEMS, LTD.

☐ Vector87

Array processor subroutines. Includes FFT, convolution, dot product, vector operations, random number generations and linear equation solvers for scientific programs. Versions for Lattice C, Microsoft C, IBM Pro FORTRAN, Lahey FORTRAN and MS FORTRAN.
IBM PC ☐ Cost: $120

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XIRIS CORP.

☐ Molecular Modeling System

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☐ Astrobase

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☐ Astrocalc

Astronomical calculations for sun, moon and planets. Includes input time, date, longitude and latitude. Provides rise/set times, magnitude, elongation, right ascension and declination, orbital elements, attitude and azimuth.
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STATISTICS & MATHEMATICS

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☐ ADDaSTAT

Statistical enhancement template for Lotus 1-2-3, performing linear regression, error bar plots, simple and matched-pair t-tests, chi-square, ANOVA and Poisson analysis.
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FFT and graphics package. One-dimensional 16,384 points and 2D 128x128 points. Real, imaginary, amplitude and phase 2D plots of data, 3D hidden line plots, and 2D cross-sections of 3D data. Reads and writes data files on disk.

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Reviewed Jul 1984 p. 40.

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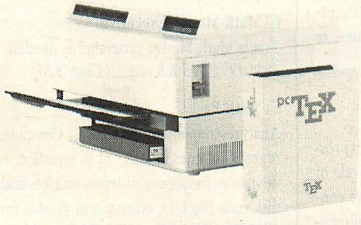
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IBM PC ☐ 16 KB req. ☐ Copies sold: 6,000 ☐ Cost: $20-$27

☐ **Regression II (PARAFIT)**
Parametric least squares regression program to determine nonlinear coefficients. Employs form of modified steepest descent. Plots data fitted function and residual.
IBM PC ☐ 16 KB req. ☐ Copies sold: 6,000 ☐ Cost: $20-$27

☐ **Roots**
Determines zeroes of polynomials having real coefficients. Employs an algorithm which interactively seeks all roots simultaneously. Convergence is cubic and stable, requiring no explicit initial guesses. Accuracy is usually within 2 digits of precision of BASIC employed.
IBM PC ☐ 16 KB req. ☐ Copies sold: 500 ☐ Cost: $16-$23

☐ **SL-MICRO**
Implements frequencies, crosstabs, Pearson correlation and multiple regression. Calculates new variables from existing variables using algebraic expressions. Recode command categorizes metric variables or converts alphanumeric to numeric variables. Includes counts and percentages and multiple linear regressions.
IBM PC ☐ 128 KB req. ☐ Cost: $250

☐ **State Variables**
Solves forcing functions including constant, ramp, step, sine, wave or user specific. Results output to printer or plotter.
IBM PC ☐ 48 KB req. ☐ Cost: $20-$23

☐ **Stattest**
Performs T-tests, chi-square tests and F-tests, regression and random number generation. Calculates descriptive statistics, states hypothesis to be tested and runs test.
IBM PC ☐ 16 KB req. ☐ Copies sold: 5,000 ☐ Cost: $30-$37

☐ **Stepwise Multilinear Regression**
Variable naming, switching, addition and removal to a data file, listing of data vs fit, including differences and percent differences, correlation matrix.
IBM PC ☐ 48 KB req. ☐ Cost: $30-$33

☐ **Xtrapolator Time Series Forecasts**
Rates linear trends, exponential and geometric curves, second and third order polynomials, regressive trends, Gompertz curves, moving and double moving averages and exponential, double and triple smoothing.
IBM PC, PCjr ☐ 48 KB req. ☐ Cost: $190

EASTERN SOFTWARE PRODUCTS, INC.

☐ **BLP88**
Employs revised simplex algorithm to solve linear programming problems which restrict value of variables. Solves any combination of 510 constraints and 1,510 variables with lower and upper bounds.
IBM PC ☐ 192 KB req. ☐ Copies sold: 500 since 1983 ☐ Cost: $99

☐ DLP88
Converts linear program into dual and vice versa. Inputs problems with 1,510 greater than, less than or equal to constraints in any combination and 510 variables in primal form using simplex algorithm. Features 8087 support.
IBM PC ☐ 192 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $99

☐ LP88
Employs revised simplex algorithm to solve linear programming problems with any combination of 510 constraints and 2,510 variables. Features 8087 support.
IBM PC ☐ 192 KB req. ☐ Copies sold: 1,500 since 1983 ☐ Cost: $99

☐ MILP88
General-purpose system for solving linear programs in which up to 64 variables are restricted to integer values. Evaluates 255 constraints and 1,255 non-integer variables.
IBM PC ☐ 192 KB req. ☐ Copies sold: 1,000 since 1984 ☐ Cost: $99

ECOSOFT, INC.

☐ Microstat
Transformations include recode, add, subtract, multiply, divide, reciprocal, log, natural log and antilog, exponential, linear transformation, adding any number of variables to create new variable and random number generator. Hypothesis testing, ANOVA, regression, time series and correlation analysis.
IBM PC ☐ 64 KB req. ☐ Copies sold: 5,500 since 1978 ☐ Cost: $375

ELECTRONIC COURSEWARE SYSTEMS, INC.

☐ Simple CALC
Computer calculator with operations in sequential steps. Executes addition, subtraction, multiplication, division, squares and square roots. Four variables available.
IBM PC ☐ 48 KB req. ☐ Introduced: 1984 ☐ Cost: $30

EXEC*U*STAT, INC.

☐ Advanced Software for Today's Executives
Routines for basic plotting, descriptive methods, estimation, forecasting, time series analysis, regression and financial calculation. Produces line, scatter and time sequence plots, line, bar and pie charts, histograms and 3D graphics. Accesses dBASE and Lotus 1-2-3. Expert Key explains results in English.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 500 since 1985 ☐ Cost: $495

THE FUTURES GROUP

☐ Statplan III
Supports basic statistics, correlation analysis, ANOVA, multiple regression analysis, autocorrelation analysis, curve fitting, exponential smoothing, and cross tabulation. Exchanges data with spreadsheet and data base programs.
IBM PC, XT, PCjr, Portable ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $149

GEN/COMP, INC.

☐ 3521 Data Distribution Software
Matches best fitting statistical distribution to user-supplied data. Performs parameter fitting, goodness-of-fit testing, random number generation and pdf plotting superimposed on histograms of user data. Handles normal, binomial, log-normal, beta, asymptotic range and linear failure rate distributions.
IBM PC, XT, AT ☐ 96 KB req. ☐ Introduced: 1985

GRYPHON MICROPRODUCTS, INC.

☐ dBRx - The dBASE II Math/Stat Program
Reviewed Jun 1984 p. 80.
Adds trigonometric, logarithmic, square root, exponentiation and string functions including BTRIM pack and nospace to dBASE II with seven to nine digits of precision.
IBM PC ☐ 48 KB req. ☐ Copies sold: 200 since 1982 ☐ Cost: $150

☐ dBRx/87 - The dBASE II 8087 Math/Stat Program
Expands functions of dBASE II to include scientific notation and statistical and mathematical capabilities with 8087 chip. Exponentiation, logarithm, sine, cosine, arc tangent, add, subtract, multiply, divide, compound interest and annuity calculations with 18 digits of precision.
IBM PC ☐ 96 KB req. ☐ Introduced: 1984 ☐ Cost: $150; $300 (with 8087 chip); $450 (with 80287 chip)

☐ dBRxIII
Performs trigonometric, financial, hyperbolic and random number functions on dBASE III files. Accesses functions in machine language form from dBASE using RUN command, with same syntax structure as dBASE. Error trapping.
IBM PC ☐ 384 KB req. ☐ Introduced: 1985 ☐ Cost: $99

HEM DATA CORP.

☐ Snap-FFT (Fast Fourier Transform)
Reads data from HEM's Snapshot file and converts it to frequency domain using Fast Fourier Transform (FFT). Calculates and plots amplitude and phase of up to 4 channels, transfer function, amplitude ratio and phase shift.
IBM PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $295

HOUSEWRIGHT SOFTWARE, INC.

☐ ESTI*MAKER
Estimating tool. Stores over 30,000 items and costs. Performs calculations in cost estimating formulas and line item estimates. Recalculates estimates with indicated changes.
IBM PC

HUMAN SYSTEMS DYNAMICS

☐ PC ANOVA
Calculates 1- to 5-factor ANOVA with randomized, repeated measures or mixed designs. Handles randomized complete blocks, latin square, ANOCOVA, nonparametric analyses and post ad hoc tests. Accepts Lotus 1-2-3 or VisiCalc DIF files or ASCII files from other sources.
IBM PC ☐ 256 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $200

☐ PC Statistician
Statistics with DBMS for professional researcher. Designs, counts, searches, sorts, reviews, edits, ranks, indexes and reorganizes files. One- to 5-way cross tabulation, ANOVA, regression analysis and parametric and nonparametric tests. Accepts Lotus 1-2-3 and VisiCalc files.
IBM PC ☐ 256 KB req. ☐ Copies sold: 2,200 since 1983 ☐ Cost: $300

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ ACRITH (High-Accuracy Arithmetic Subroutine Library)
IBM no. 5664-185; 5665-337; 5666-320. Routines for solving numerical analysis problems. Evaluates arithmetic expressions, polynomials, zeros of polynomials, linear equations, matrix inversion, linear optimization, eigenvalues, eigenvectors, vector operations, scalar product and matrix multiplication.
IBM XT/370, AT/370

IBM PERSONALLY DEVELOPED SOFTWARE

☐ Personal Scientific Calulator
IBM PDS no. 6276-513. Functions range from balancing checkbooks to solving math problems involving complex numbers, trigonometric functions and coordinate conversions. Displays full screen of active stack and memory areas for variables. Designates fixed decimal or scientific notation. Color EGA support.
IBM PC, XT, AT, Portable PC, PCjr, 3270-PC ☐ 128 KB req. ☐ Cost: $25

☐ Scientific Package
IBM PDS no. 6276-548. Consists of Personal Scientific Calculator, STATLIB 1 and STATLIB 2.
IBM PC, XT, AT, Portable PC, PCjr ☐ 192 KB req. ☐ Cost: $195

☐ STATLIB 1
IBM PDS no. 6276-501. Provides descriptive statistics, hypothesis testing, confidence intervals, ANOVA, quality control, reliability, linear and non-linear regression and financial analysis. Incorporates numerical integration of normal, t, f and chi-square distributions. Color EGA support.
IBM PC, XT, AT, Portable PC ☐ 192 KB req. ☐ Cost: $150

☐ STATLIB 2
IBM PDS no. 6276-539. Provides random number generators, multivariate statistics, time series analysis and non-parametric statistics. Requires IBM 8087/80287 math co-processor. Color EGA support.
IBM PC, XT, AT, Portable PC ☐ 192 KB req. ☐ Cost: $150

IDEAL SYSTEMS

☐ Advancestat
Includes multiple regression, three-way ANOVA and unequal sizes for one-way ANOVA with FMAX, Bartlett's and other tests.
IBM PC, XT, AT ☐ 64 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $195

☐ Introstat
Statistics with tests suited to education, research and business.
IBM PC, XT, AT ☐ 48 KB req. ☐ Copies sold: 500 since 1981 ☐ Cost: $125

IMSL, INC.

☐ Library
Collection of 540 subroutines. ANOVA, basic statistics, categorized data analysis, differential equations, quadrature and differentiation, eigensystem analysis, forecasting, generation and testing of random numbers, linear equations, nonparametric statistics, regression analysis, sampling and utility functions.
IBM RT PC ☐ Copies sold: 3,037 since 1971

☐ LP/PROTRAN
Defines problems by specifying objective functions, constraints and bounds. Uses algorithm suited to large sparse problems. For operations research, agricultural economics, econometrics, statistics, management and manufacturing.
IBM RT PC ☐ 384 KB req. ☐ Copies sold: 38 since 1983

☐ Math/PC-Library
Differential equations, integration, eigensystem analysis, error and gamma functions, interpolation, approximation, smoothing, linear algebraic and nonlinear equations, optimization, vector/matrix arithmetic and sorting.
IBM PC, XT, XT/370, AT/370, Portable PC ☐ 128 KB req. ☐ Copies sold: 240 since 1985

☐ Math/PROTRAN
Approximation, smoothing, data fitting, differentiation, fast Fourier transforms integration, interpolation, differential equations, eigenvalues, linear/nonlinear systems of equations and nonlinear least squares problems.
IBM RT PC ☐ Copies sold: 125 since 1982

☐ SFun/Library
For applied mathematics, physics, engineering and other technical fields. Eighty special subroutines for fundamental, elementary, trigonometric, hyperbolic, gamma, error and bessel functions and exponential integrals.
IBM PC, XT, AT, XT/370, AT/370, RT PC, Portable PC ☐ Copies sold: 47 since 1984 ☐ Cost: $440

☐ Stat/PC-Library
Basic statistics, regression and time series analysis, ANOVA, non-parametric statistics, goodness-of-fit tests, forecasting, random number generation, probability distribution and their inverses.
IBM PC, XT, XT/370, AT/370, Portable PC ☐ 128 KB req. ☐ Copies sold: 158 since 1985

☐ Stat/PROTRAN
Basic statistics, frequency, cross tabulation, correlation, regression analysis, ANOVA and random number generation. Manages and analyzes information and prints results.
IBM RT PC ☐ Copies sold: 60 since 1982

INSTITUTE OF INDUSTRIAL ENGINEERS

☐ Statistical Analysis
Features Mann-Whitney Test, statistical data analysis, polynomial curve fit, and distribution fitting using Kolmogorov-Smirnov Statistical Test.
IBM PC, XT ☐ 48 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $175

ISTEL, INC.

☐ SEE WHY
Defines and manipulates elements of simulation. Routines for display enhancements, automatic or user-directed statistics collection, sampling from theoretical or user-defined distributions, and construction of model interactions. Interactions for simulation run control, inspection and change.
IBM PC, AT ☐ 512 KB req. ☐ Copies sold: 140 since 1983 ☐ Cost: $31,700

JOINER ASSOCIATES, INC.

☐ Jass
Designs and analyzes 2-level factorial experimental designs applicable to laboratory research, production line or marketing. Graphs/displays results in data collection forms, alias tables, plots of effects, normal/dot/square/cube/interaction/scatter plots, residuals, fitted values and cell statistics.
IBM PC ☐ 512 KB req. ☐ Cost: $895 and up

KOCH SOFTWARE INDUSTRIES, INC.

☐ PC-Pocket-Calc
Calculator emulator with math and memory. Blocks off and embeds total numbers in documents.
IBM PC ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $50

LIONHEART PRESS, INC.

☐ Business Statistics
Sampling, performance characterization by comparision to standard mean or variance, quality control, product reliability, regression, forecasting, parametric/non-parametric significance testing and business experiments design.
IBM PC ☐ 64 KB req. ☐ Copies sold: 350 since 1984 ☐ Cost: $145

☐ Decision Analysis Techniques
Bayesian probability, hypothesis testing, experimentation, mathematical programming, multiple objectives, decision tables and trees, prior and posterior probabilities and ELECTRE techniques.
IBM PC ☐ 64 KB req. ☐ Copies sold: 350 since 1985 ☐ Cost: $110 and up

☐ Experimental Statistics
Quantitative statistics including uncertainties, sampling and normal distribution, hypothesis testing, significance levels, calculation of Type I and II errors, ANOVA, experiment design, linear and multi-linear regression and covariance.
IBM PC ☐ 64 KB req. ☐ Copies sold: 800 since 1984 ☐ Cost: $145

☐ Exploratory Data Analysis
Descriptive statistics amassed by median polish, resistant lines, rootgrams and coded tables. Graphing of box and whisker plots based on stem and leaf techniques.
IBM PC ☐ 64 KB req. ☐ Copies sold: 275 since 1985 ☐ Cost: $75 and up

☐ Linear and Non-Linear Programming
Monte Carlo technique as applied to linear/non-linear programming. Calculations with number of independent variables and constraints. General programs cover linear, quadratic and non-linear programming. Separate programs cover problem assignment, distribution and transport.
IBM PC ☐ 64 KB req. ☐ Copies sold: 450 since 1984 ☐ Cost: $95 and up

☐ Monte Carlo Simulation
Ratio analysis of situation in which user must allow for seemingly unpredictable occurrences. Generates random numbers according to normal, log-normal, Pareto's, uniform, binomial, negative binomial and Poisson distributions. Provides statistical analysis and chi-square goodness-of-fit facility.
IBM PC ☐ Copies sold: 300 since 1984 ☐ Cost: $125 and up

☐ Multivariate Analysis
Reviews major techniques of multivariate analysis. Topics include correlation analysis, factor analysis, component analysis and the study of multiple populations.
IBM PC ☐ Cost: $150

☐ Optimization
Optimization by experiment, sampling, linear and goal programming, simulation and user-defined functions.
IBM PC ☐ 64 KB req. ☐ Copies sold: 400 since 1985 ☐ Cost: $110 and up

MATHEMATICAL SOFTWARE CO.

☐ IMP (Interactive Multiple Prediction)
Multiple, linear regression program. Accepts as input a data-set made up of one criterion variable and M-1 predictor variables. Output is multiple-regression formula used for making predictions.
IBM PC, XT, AT ☐ 48 KB req. ☐ Introduced: 1985 ☐ Cost: $40-$60

☐ Multiple Factor Analysis
Analyzes new primary data from surveys or multiple-variable measurements and intercorrelation matrices in journal articles. Accommodates different rotational schemes on factor-loadings or those created by other researchers. Allows 10 refactorings. Outputs F x M matrix and M communalities.
IBM PC, PCjr, XT, AT ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $60-$70

☐ Son of Multiple Factor Analysis
Computes factor-score profiles for each case on F factors. Searches for types among the cases using several profile-similarity, clustering techniques. Computes the factor-loadings of a new variable and/or the factor-score profile for a new case.
IBM PC, XT, AT ☐ 64 KB req. ☐ Introduced: 1984 ☐ Cost: $60-$80

MATHSOFT, INC.

☐ MathCAD
Creates and edits equations. Calculates and displays results as single number, plot or table. Adds text to screen. Prints integrated document.
IBM PC ☐ 256 KB req. ☐ Cost: $189

THE MATRIX CALCULATING ENGINE (MACE), INC.

☐ Statistician's MACE
Statistics. Multiple regression, correlations, several ANOVAs, nonparametric tests, descriptive stats and data transformations. Data from keyboard or files created by spreadsheet, data base and word processors.
IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $255

MEDIAX INTERACTIVE TECHNOLOGIES

☐ Microscale
Analyzes surveys, questionnaires, market research, productivity reports, behavioral data and statistical input.
IBM PC ☐ 256 KB req.

MICARY ELECTRONICS, LTD.

☐ Mega Math
Numeric calculations including matrix multiplication and transpose, Fast Fourier Transform, convolution, linear equations and vector, scalar and transcendental operations.
IBM PC, XT, AT ☐ Cost: $99-$150

MICRO FOCUS, INC.

☐ CO-Math
Mathematical functions library. Exponentiation, power, square root, natural log, log 10, sine, cosine, tangent, arcsine, arccosine, arctangent and arctangent XY. Integrates with Micro Focus' CO-Graphics and programming products.
IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $200

MICROSOFT CORP.

SEE AD ON PAGES 284/285/286/287/288

☐ MuMATH Symbolic Mathematics Package
Algebra, trigonometry, calculus, integration, differentiation and transcendental functions. Handles low and high level symbolic math operations. Loads only portions of muMath package needed.
IBM PC ☐ 64 KB req. ☐ Introduced: 1980 ☐ Cost: $250

MICROWAY, INC.

SEE AD ON COVER 3

☐ MatrixPak
Employs 8087 coprocessor to achieve floating point throughput. Element add, subtract, multiply and divide. Swap and divide rows, Inverse/Gaussian elimination, identity, transpose and list matrices, matrix scaling, row and column operations and determinants. Callable from MS FORTRAN, RM FORTRAN and 87BASIC.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 2,525 since 1984 ☐ Cost: $150

MINITAB, INC.

☐ Data Analysis Software
Descriptive statistics, plotting histograms multiway tables, regression with residual analysis, diagnostics and step-wise procedures, ANOVA, non-parametric methods, exploratory data and time series analysis and matrix operations. Suitable for engineers, social and physical scientists, educators, managers and students.
IBM PC, XT, AT ☐ Copies sold: 2,500 since 1972

MINUTEMAN SOFTWARE

☐ GPSS/PC Version 2
Implements mainframe simulation language GPSS. Five graphics windows and animation capability. Modifies real-world systems.
IBM PC, XT, AT ☐ 320 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $995

MORGAN COMPUTING CO., INC.

☐ MLR (Multiple Linear Regression)
For business and social sciences. Analyzes relationship among set of variables. Handles 10 variables and 999 observation sets. Produces usual statistical measure. Allows for sensitivity analysis.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $100

MSS-MICROCOMPUTER STATISTICAL SYSTEMS

☐ MSS (Microcomputer Statistical System)
Performs balanced and unbalanced ANOVA with up to 20 main effects, multiple linear regression (up to 20 regressors), ANOCOVA, discriminant analysis, descriptive univariate statistics, hypothesis testing, plotting, polynomial regression, correlation and covariance matrix and data management.
IBM PC ☐ 256 KB req. ☐ Copies sold: 3 since 1985 ☐ Cost: $199

NCSU SOFTWARE (NORTH CAROLINA STATE UNIVERSITY)

☐ Psycho-Stats
File-oriented statistical system. User can perform routines on data bases that include up to 30 variables with up to 400 observations per variable. Features field manipulation, descriptive statistics, frequencies, t-tests, correlation, multiple regression, up to 3-way ANOVA and nonparametric tests.
IBM PC ☐ 128 KB req.

NH ANALYTICAL SOFTWARE

☐ Statistix

Statistical analysis and data manipulation. Data management, probability, goodness of fit association testing, randomness/normality testing, file management, summary statistics, 1, 2 and multi-sample testing, linear modeling, residual and ANOVA/ANOCOVA functions.

IBM PC, XT, AT ☐ 64 KB req. ☐ Cost: $75

NIGHTHAWK COMPUTER SCIENCES, INC.

☐ dInline Calculator

Provides calculator capabilities to dBASE II and dBASE III applications.

IBM PC ☐ Copies sold: 20 since 1984 ☐ Cost: $35

NORTHWEST ANALYTICAL, INC.

☐ Statpak

Data file creation/manipulation, probability calculations, reporting, single variable statistics, regression, correlation, nonparametric statistics, distribution functions, means testing, chi-square analysis, crosstabulation, contingency tables and ANOVA. Adds presentation graphics to control charts and analytical routines. Presentation graphics. Interfaces with spreadsheets and data bases.

IBM PC ☐ 64 KB req. ☐ Copies sold: 12,000 since 1980 ☐ Cost: $395-$495

NUMBER CRUNCHER STATISTICAL SYSTEMS

☐ NCSS

Regression analysis, ANOVA/ANOCOVA, principal components factor, cluster, discriminant, time series, contingency tables, T-tests, scatter, quantic and box plots, transformation and variables, cases or missing values. Spreadsheet-like data entry/import from ASCII files.

IBM PC ☐ 256 KB req. ☐ Copies sold: 2,500 since 1980 ☐ Cost: $79

P-STAT, INC.

☐ P-STAT

Relational data base used by educational, commercial and government installations for census/demographic analysis, biometric research, systems performance and administrative management. Conversational processing with immediate error correction and file management. Reads DIF and ASCII files.

IBM XT, AT ☐ Copies sold: 500 since 1964

PAB SOFTWARE, INC.

☐ Complex Matrix Master

Provides extension to BASIC ROM which calls standard matrix operation from BASIC. Addition, subtraction, multiplication, transpose, inverse, identity and scalar arithmetic operations. Sets matrix to constant. Single/double precision lead files available.

IBM PC ☐ 48 KB req. ☐ Copies sold: 4 since 1984 ☐ Cost: $35

☐ FFT Master

Forward/inverse, with/without Hanning weighting Fast Fourier Transform (FFT) analysis. Double precision for exacting analysis, single precision for normal analysis and scaled integer with sine-cosine table. Transforms performed in place. Size of each FFT limited only by available RAM.

IBM PC ☐ 48 KB req. ☐ Copies sold: 35 since 1983 ☐ Cost: $25

☐ Math Master Executive

Loads Math Master Programs as needed.

IBM PC ☐ 48 KB req. ☐ Copies sold: 35 since 1984 ☐ Cost: $25

☐ Matrix Master

Provides extension to BASIC ROM which calls standard matrix operations from BASIC. Addition, subtraction, multiplication, transpose, inverse, identity and scalar arithmetic operations. Sets matrix to constant. Single/double precision lead files available.

IBM PC ☐ 48 KB req. ☐ Copies sold: 80 since 1983 ☐ Cost: $25

☐ Poly Master

Array form arithmetic and standard polynomial operations. Uses subroutines callable from BASIC that provide extension to BASIC ROM. Addition, subtraction, multiplication, division, greatest common denominator, integral, evaluate and setting 1 polynomial equal to another.

IBM PC ☐ 48 KB req. ☐ Copies sold: 30 since 1984 ☐ Cost: $25

☐ Poly Root Master

Enhances normal BASIC by providing polynomial root computation command. Finds multiple complex roots. Command syntax is 10 CMD ROOT A=R(B) and I(C) using (D). Assumes working knowledge of polynomial roots. Interfaces with PAB Software's Math Master Executive.

IBM PC ☐ 48 KB req. ☐ Copies sold: 40 since 1984 ☐ Cost: $25

PARAGON COURSEWARE

☐ Savant Tools: Infinite Precision Math IPMath

Includes documented source Pascal routines which solve equations, and do numerical integration, all to any accuracy up to 32,727 digits.

IBM PC ☐ 256 KB req. ☐ Copies sold: 65 since 1985 ☐ Cost: $85

☐ Savant Tools: Real Precision Math: RPMath

Includes documented Pascal (source code) routines which solve linear, non-linear and differential equations, do least squares fits, numerical integration, and complex arithmetic.

IBM PC ☐ 64 KB req. ☐ Copies sold: 75 since 1985 ☐ Cost: $55

P. C. STAT, INC.

☐ ASAP Curve Fitting with Graphics

Least squares curve fitting of 7 curve types. Regression formula and coefficients and standard error estimates. Stepwise multiple regression fits curve of 10 independent variables. Curves show actual points, regression and selected confidence ranges.

IBM PC, XT, PCjr ☐ 64 KB req. ☐ Cost: $80

☐ ASAP Statistics & Graphics

Least squares and multiple regression curve fit, descriptive statistics, chi-square, student T-test, ANOVA, covariance, correlation, distribution and 3-way and binomial distribution analyses. Includes P.C. Stat's Business Graphics package.

IBM PC, XT, PCjr ☐ 64 KB req. ☐ Cost: $225

☐ Statistical Analysis Package

One hundred statistical analysis routines, graphics, DBMS and report generation. Handles large amounts of numeric data in relational environment. Produces scatter, point, line, pie, stacked area, high-low-close, multiple/stacked/horizontal bar and X-Y scatter, line and bar charts.

IBM PC, XT, PCjr ☐ 128 KB req. ☐ Cost: $800

☐ Statistical Package II

One hundred statistical analysis routines and file maintenance. Curve fitting, ANOVA, inference, random sample generation, time series and distribution analysis, data conditioning and character graphics.

IBM PC, XT, PCjr ☐ 128 KB req. ☐ Cost: $550

PEERLESS ENGINEERING SERVICE

☐ All Purpose Calculator

Expresses 64 characters. Syntax checking returns help messages. Provides six constants, 20 memories and 38 functions. Displays source expression at any time. Subtotal Mode displays and prints solution to current expression running subtotal. Includes paper tape option using system printer.

IBM PC, XT, AT, PCjr ☐ 64 KB req. ☐ Copies sold: 1,000 since 1985 ☐ Cost: $30

PENTON SOFTWARE, INC.

☐ QualityAlert

Enables users to analyze process capability, construct different types of control charts and determine when quality deviations occur. Designed for both attribute and variable data. Outputs numerical data, statistics, and graphic display on the monitor or as optional hard copy on a graphics printer.

IBM PC, XT ☐ 192 KB req. ☐ Copies sold: 1,000 since 1983 ☐ Cost: $795

☐ Statpro

Data analysis integrating statistical techniques with graphics and data base management capabilities. Supports Descriptive, Regression, ANOVA, Time Series and Multivariate modules. Provides multi-color graphics including scatter plots, histograms and regression plots, box plots, dendrograms, and function plots.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 2,000 since 1983 ☐ Cost: $795

PHOTON SOFTWARE

(division of Care Computer Systems)

☐ Ten Key

Memory-resident desktop calculator with windowing, addition, subtraction, multiplication, division, percentage calculations, constants, decimal precision to 15 places and movable, printable and scrollable tape display.

IBM PC, XT ☐ 16 KB req. ☐ Copies sold: 30,000 since 1984 ☐ Cost: $38

PROGRAMMED PRESS

☐ Statistical Software for Forecasting

Handles exponential smoothing. Includes secular trend and projections, growth rate and projections, monthly and quarterly seasonal indexes, monthly and quarterly link relatives, time series and quarterly time series decomposition and multiple correlation regression.

IBM PC, XT, AT, PCjr ☐ 48 KB req. ☐ Copies sold: 5,000 since 1983 ☐ Cost: $120

QUALITY SOFTWARE ENGINEERING, INC.

☐ Statistical Quality Control Package

Produces single and multiple samples per interval. Allows 1,000 intervals per data base and 5 sample ID fields with carryover for repetitive items. Provides control charts and summary data for standard deviation, population distribution and probability.

IBM PC ☐ 256 KB req. ☐ Cost: $495

QUANT SYSTEMS

☐ Statistician

Multiple regression, time series analysis, descriptive statistics, transformation, survey research, non-parametrics, X-Y plots, ANOVA, random samples, hypothesis testing and data base search and sort.

IBM PC ☐ 128 KB req. ☐ Copies sold: 1,000 since 1978 ☐ Cost: $350

QUANTITATIVE TECHNOLOGY CORP.

☐ Math Advantage

Provides 176 subroutines used in development of programs for engineering and scientific applications such as mechanical CAD, large-scale simulation and signal and image processing.

IBM PC ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $495-$15,000

THE QUANTUM CO.

☐ Galileo

Statistical process control system. Creates charts using data from keyboard, ASCII files, spreadsheets or gauges. Provides color graphics, keystroke logging, data manipulation, statistics, sampling plans, process evaluation, frequency curves and data capture.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $995

QUESTIONNAIRE SERVICE CO.

☐ SL-MICRO, Statistical Language for Microcomputers
Processes up to 32,600 cases with 200 variables. Includes frequencies with statistics, crosstabs, anova, Pearson correlation, multiple regression, data editor and data transformations.
IBM PC ☐ 48 KB req. ☐ Copies sold: 400 since 1982 ☐ Cost: $250

RAPID IMAGING SOFTWARE

☐ FFT87
Fast-Fourier Transform (FFT). Interfaces to 8 languages. Performs forward and inverse transforms with or without normalization. Requires 8087 Co-processor chip.
IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 80 since 1984 ☐ Cost: $125

☐ Imaging Toolkit
Imaging software for IBM PCs with the 8087 numeric coprocessor chip and a high performance graphics board. Expected applications are in digital scene simulation of topographic data and 3D image reconstruction for medical data.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 25 since 1985 ☐ Cost: $799

RJL SYSTEMS

☐ Disk Calculator
Emulates a desk-top calculator. Performs exponentiation and present and future value computations. Displays or prints results. Result fields to 18 digits.
IBM PC ☐ 128 KB req. ☐ Cost: $29

ROSEN GRANDON ASSOCIATES, INC.

☐ A-STAT
Statistical analysis with DBMS. Performs frequency distributions, T-tests, ANOVA, crosstabulations, correlations, scattergrams, histograms, multiple regression, factor analysis, file sorting, aggregation and sub-group analysis. Includes data transformation language and report writer with break and sum fields.
IBM PC, PCjr ☐ 48 KB req. ☐ Copies sold: 1,000 since 1978 ☐ Cost: $175-$200

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☐ SAS/IML Software
Interactive programming facility for data analysis and manipulation. Operates on entire matrices of values. Performs common mathematical and matrix operations. Transcribes formulas from matrix algebra notations into SAS/IML statements. Requires Base SAS Software.
IBM PC, XT, AT, XT/370, AT/370/VM/PC ☐ 512 KB req. ☐ Copies sold: 242 since 1985

☐ SAS/Stat Software
Statistical analysis system. Includes pre-written procedures for regression analysis, ANOVA, common factor and component analyses, discriminant analyses and scoring. Interactive windowing enables users to edit and manage I/O and messages. Requires Base SAS Software for PCs.
IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1986

SCIENTIFIC COMPUTER APPLICATIONS CORP.

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☐ Statistical System
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JIM SERWER

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SOFT WAREHOUSE, INC.

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☐ Statistical Analysis Software System
Descriptive, parametric and non-parametric statistical routines. Data handling and foreign file reading. Forecasting. Graphics.
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Five data management programs analyze data sets which contain extensive file handling and data manipulation as well as data analysis programs. Supports ASCII, systems data and matrix files. Runs programs independently.
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Performs matrix operations including multiple regression, solution of systems of equations and inversion. Single statement for each operation. Obtains condition number, determinant, regression statistics. Includes source code to solve linear programs and find eigenvalues. Requires IBM BASIC or BASICA.
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☐ Matrix 100 - FORTRAN
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☐ Matrix 100 - 8087 Support
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☐ **Automatic Statistics Package 1**
Least squares curve fitting, multiple regression, descriptive statistics, chi-square, student T-test, distribution tests, ANOVA, covariance, and correlation. File maintenance capabilities with business graphics. Descriptive statistics and transformations plus character graphics and data transfer between ASCII, delimited and interfaces with Lotus 1-2-3 and dBASE.
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Reviewed Sep 1985 p. 137; Jun 1986 p. 124.
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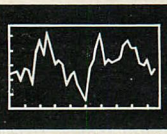
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IBM PC

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Consists of 114 pretested and precompiled mathematical and statistical subroutines. Performs tasks involving complex number operations in such areas as matrices with real or complex elements, polynomials, differential equations, ANOVA solution of equations and general statistics.
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Reviewed May 1986 p. 201.
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IBM PC

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(a Schlumberger Co.)

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IBM PC

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CASA/GIFTS, INC. (COMPUTER AIDED STRUCTURAL ANALYSIS)

☐ GIFTS (Graphical Interactive Finite Element Structural Analysis Total System)
Provides full linear solution capability including static, vibrational, and transient. Allows pre- and post-processing to other programs. Includes automatic mesh generation, and grid biasing. Handles multi-level substructuring and unlimited problem size. Provides set of basic tested elements. CAD interfaces available.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $2,000

CELESTIAL SOFTWARE, INC.

☐ IMAGES-AISC
Uses data base of structural shapes to check against AISC eight edition code for a set of loads. Interactive code used for post processor for IMAGES-2D and IMAGES-3D codes.
IBM XT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $200

☐ IMAGES-2D
Performs static and dynamic analysis of plane frames, beams and trusses. Finite element method, model generation, node numbering for bandwidth minimization, screen plots and animated node shapes.
IBM PC, XT ☐ 192 KB req. ☐ Introduced: 1983 ☐ Cost: $500-$1,300

☐ IMAGES-3D
Performs dynamic and static analysis of 3D structures. Displays/prints models in original or deformed states with hidden lines removed, surfaces highlighted, colors, and rotated orientation. Analyzes problems up to 2,400 degrees of freedom with no penalty for bandwidth.
IBM XT, AT ☐ 512 KB req. ☐ Introduced: 1984 ☐ Cost: $1,500-$3,900

CIVILSOFT
(division of The Technical Group, Inc.)

☐ Stress
Plane frame and truss program to calculate joint rotations, joint displacements, moments, shear forces and axial forces under static loadings for plane frame/truss, multi-story, rigid frame and truss structures. Uses stiffness method for solution of unknowns.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $590

COMPUTER AIDED STRUCTURAL TECHNOLOGY

☐ M-STRUDL
2D/3D frame and truss analysis and design. Static/dynamic analysis. AISC compliant.
IBM PC, XT, AT

COMPUTER SOFTWARE TECHNOLOGY

☐ Contours For Applied Mechanics
Contour lines printed for finite element models, such as quads or triangles, and values at nodes or element centers.
IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $135

COMPUTERS AND STRUCTURES, INC.

☐ ETABS84, PLOTTER, STEELER, CONKER, WALLER
Provides 3D static and dynamic analysis of multi-story buildings up to 100 stories with design postprocessors for steel or concrete frames or concrete shear walls. Graphics program plots undeformed geometry, static deformed shapes and mode shapes.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 411 since 1984 ☐ Cost: $1,000-$3,000

☐ SAP80, SAPSTL, SAPCON
Provides 3D static and dynamic analysis of structures with frame, shell, solid and/or axisymmetric elements. Includes design postprocessors for steel or concrete building frames. Graphics program for undeformed geometry, static deformed shapes and mode shapes.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 361 ☐ Cost: $1,000-$5,000

CONTROL DATA CORP.

☐ Cybernet Express Graphics Modeling System
Pre- and post-processor for host-based structural finite element analysis programs. Includes GMS/PREP a model generator with graphics, mesh generation physical model characteristics and loading definitions and GMS/POST for producing graphics depicting effects on structural model.
IBM PC, XT, AT

☐ Cybernet Express Mechanical Structures
Provides environment to create structural models and perform finite element analysis.
IBM PC, XT, AT

☐ Cybernet Express Structures
IBM PC, XT, AT ☐ 512 KB req.

CONTROL DATA CORP.

Science Information Services

☐ VistaSIGMA
Single resource design package. Tasks include entering and modifying data, transferring files to/from UIS's CRAY-1 based SUPRA Service, submitting jobs for CRAY processing automatically, interactive graphics, and hard copies of graphics. Access to range of engineering codes.
IBM PC, XT ☐ 256 KB req. ☐ Cost: $1,600

DESERT EARTH ENGINEERING

☐ PFrame
Uses displacement method to determine joint displacements, member forces at ends or at ¼ points along members, support reactions and total structure weight for any general 2D linearly elastic system composed of beam or bar members.
IBM PC ☐ 128 KB req. ☐ Copies sold: 30 since 1982 ☐ Cost: $150

☐ TDTruss
Uses displacement method to determine joint displacements, member axial forces and support reactions for any general 3D linearly elastic system composed of bar members.
IBM PC ☐ 128 KB req. ☐ Copies sold: 5 since 1982 ☐ Cost: $150

DYNACOMP, INC.

☐ Analysis of Continuous Beams
Analyzes determinate and indeterminate beam structures. Calculates joint displacements and rotations, member end shear forces, bending moments and section top and bottom stresses. Defines loading by concentrated loads and moments, and member-uniform and linearly distributed loads. Analyzes support settlement.
IBM PC ☐ 48 KB req. ☐ Cost: $50

☐ Analysis of Plane Frames
Analyzes determinate and indeterminate plane frame structures. Calculates horizontal, vertical and rotational displacements at joints, axial forces, shear forces, bending moments and section top and bottom stresses at member ends. Analyzes support settlement case.
IBM PC ☐ 48 KB req. ☐ Cost: $50-$120

☐ Beam Deflection
Data input program develops data files to describe problem. Analysis program calculates stress and deflections of beam in numerical and graphic form.
IBM PC ☐ 16 KB req. ☐ Copies sold: 2,000 ☐ Cost: $40-$43

☐ Sofnet
Liquid pipeline network analysis. Creates network data files. Solves series of flow equations by interactive link-node technique. Determines pressure and external flows at each point and flow through up to 150 connecting elements.
IBM PC ☐ 48 KB req. ☐ Copies sold: 600 ☐ Cost: $130

ECOM ASSOCIATES, INC.

☐ Structural Engineering Series
Aids in analysis of 2D/3D commercial, industrial and special structures and links to design of steel and concrete members. Modules available to analyze/design footings, bridges, prestressed beams, post-tensioned slabs and shear walls.
IBM PC, AT ☐ 256 KB req. ☐ Copies sold: 1,200 since 1973 ☐ Cost: $325-$2,500

ENERCALC

☐ Structural Library
Library of 40 structural analysis/design templates. Includes analysis, steel, concrete, retaining wall, timber and masonry templates. Templates available individually, by group or complete library. Requires Lotus 1-2-3 or Symphony.
IBM PC, PCjr, XT, AT ☐ 384 KB req. ☐ Copies sold: 250 since 1983 ☐ Cost: $845

ENGINEERING COMPUTER SOFTWARE (NY)

☐ EOSP/Structural Design and Analysis
Performs structure analysis, foundation analysis, multiple engineering and engineering-math functions. Provides interactive graphic presentation of I/O.
IBM XT, AT ☐ 250 KB req. ☐ Cost: $2,000

ENGINEERING MICRO RESEARCH, INC.

☐ EMRSE
Steel design and analysis. Handles moments and shear profiles. Calculates K factors. Produces output as graphics or numeric data. Allows user-specific locations for code checking anywhere along members.
IBM PC, XT, AT, RT ☐ 512 KB req. ☐ Cost: $500

ENGINEERING SERVICES

☐ CBEAM
Concrete beam analysis. Input includes geometric parameters and member loads. Output includes calculation of steel to satisfy current ACI 318-83 flexure and shear capacity requirements.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $150

☐ CFOOT
Concrete footing design. Output includes reinforcing steel necessary to satisfy current ACI 318-83 strength requirements.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $225

☐ Column
Analysis and design of reinforced concrete axially loaded members. Input includes initial member geometry, axial load and eccentricity of load about both minor and major axes. ACI 318-83-compliant.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $250

☐ ISSAS
Analyzes rigid frames, determinate trusses, indeterminate trusses and continuous beams subjected to gravity or lateral loads.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $335-$435

☐ PCSAP: 3-D Frame/Truss
Evaluates 700 joints. Handles 3D truss elements, 3D frame elements and boundary elements.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $200

☐ PCSAP: 3-D Frame/Truss With Dynamics
Evaluates 3D frame elements, 3D truss elements and boundary elements. Handles up to 700 joints.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $300

☐ PCSAP: 3-D Frame/Truss/Plate/Shell/Plane Stress/Strain
Evaluates 3D truss elements, 3D frame elements, plane stress and plane strain elements, 2D axisymmetric solids, thin plate or thin shell elements and boundary elements.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $300

☐ PCSAP: 3-D Frame/Truss/Plate/Shell/Plane Stress/Strain With Dynamics
Evaluates 3D truss elements, 3D frame elements, plane stress and plane strain elements, 2D axisymmetric solids, thin plate or thin shell elements and boundary elements.
IBM PC, XT, AT ☐ 640 KB req. ☐ Cost: $400

☐ PGROUP
Pile group analysis. Determines pile loads for eccentricity loaded pile caps and interactively deletes, adds or adjusts piles spacing.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $150

☐ Plate
ACI 318-83-compliant interactive flat plate analysis and design. Includes preprocessing graphics for input data verification.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $150

☐ RWALL (Retaining Wall Analysis)
Retaining wall analysis and design. Outputs reinforcing steel requirements and calculates safety factors for overturning and sliding. Interactively corrects unsatisfactory initial designs until final member dimensions satisfy user-specified safety factors.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $225

☐ Settle
Estimates foundation settlement. Analyzes rectangular, circular and continuous strip footings. Calculates settlements of sand and clay foundation soils using Schmertmann's (1978) methods.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $250

☐ SWALL (Shear Wall Analysis)
Considers wind, seismic forces, eccentricities due to center of pressure and center of mass effects to analyze buildings containing multiple shear walls.
IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $250

ENGINEERING SOFTWARE CO.

(division of Infotech Management, Inc.)

☐ AutoFRAME
Finite element program for design and analysis of 2D plane frame or truss. Creates architectural drawings.
IBM PC ☐ 128 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $750

☐ Pressure Vessel
Designs or rerates shell and heads for horizontal or vertical vessels using ASME VIII code formulas/procedures. Calculates reinforcements for shell or head nozzles and tension of compression stresses for internal or external pressures.
IBM PC, XT ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $995

☐ Shaft 3D Dynamics
Tests/designs solid or hollow shafts. Determines maximum load/load distribution for given shaft size. Calculates bending and torsional stresses for static and dynamic conditions. Determines critical speed or frequency of vibration under dynamic conditions.
IBM PC, XT ☐ 128 KB req. ☐ Copies sold: 5 since 1986 ☐ Cost: $795

☐ Shells of Revolution
Calculates deflection, strain and stresses for pressure vessels, formed heads and piping. Includes mesh generation.
IBM PC ☐ 128 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $595

☐ SIGAINS1
Controls system gains. Determines necessary pole gains for single output and single control variable configurations using differential equations.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $250

☐ SISO1 - Single Input-Single Output
Determines transfer function form of model of linear constant coefficient ordinary differential system from state space equations.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $250

☐ Solver
Programmable to solve complex engineering and scientific equations with up to 512 steps. Stores results for insertion into other equations. Integrates with many word processing and spreadsheet programs. Calculates up to 18 significant digits.
IBM PC ☐ Cost: $50

☐ **Spur Gear Design**
Spur gear analysis. Calculates bending and surface stresses for pinion and spur gear set over range of specified face, widths and diametral pitches.
IBM PC, XT ☐ 64 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $395

☐ **STATE1**
State space equations. Determines model form of linear, constant coefficient and ordinary differential system.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $250

☐ **2D Finite Element Analysis**
Calculates deflection and stresses with screen graphics and plotting.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 200 since 1985 ☐ Cost: $495

☐ **2D Stress Analysis**
Calculates 2D stress analysis including super-element mesh generator.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 50 since 1984 ☐ Cost: $595

☐ **3D Finite Element Analysis-Dynamics**
Calculates deflections and stresses for static and dynamic models of frames and trusses with screen graphics.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 75 since 1985 ☐ Cost: $1,595

☐ **3D Finite Element Analysis-Statics**
Calculates deflections and stresses for static models with 3D screen graphics.
IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 75 since 1985 ☐ Cost: $795

ESDU INTERNATIONAL, INC.
(subsidiary of International Thomson Organization)

☐ **Bending of Curved Beams**
Calculates maximum stresses in fabricated curved beam under bending in its plane of curvature. Choice of ten cross-sections for beam. Color graphics capability.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Buckling of Plates - Clamped and Simple-Supported Edges**
Obtains values for shear and compressive direct loads that make flat rectangular orthotropic plate or isotropic plate buckle. Color graphics capabilities.
IBM PC, XT, AT ☐ 128 KB req.

☐ **Buckling of Plates - Clamped Edges**
Obtains values for shear and compressive direct loads that make flat rectangular orthotropic plate or isotropic plate with clamped edges, buckle. Color graphics capability.
IBM PC, XT, AT ☐ 128 KB req.

☐ **Buckling of Plates - Simply-Supported Edges**
Obtains values for shear and compressive direct loads that make flat rectangular orthotropic plate or isotropic plate with simply-supported edges, buckle. Color graphics capabilities.
IBM PC, XT, AT ☐ 128 KB req.

☐ **Buckling of Rectangular Orthotropic Plates I**
Obtains values for shear and direct loads that make rectangular orthotropic plate or isotropic plate buckle. Handles longitudinal, transverse and shear loads. Provides geometric and materials properties data for plate.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Buckling of Rectangular Orthotropic Plates II**
Obtains values of shear and direct loads that buckle rectangular fiber-reinforced plate. Plate can have up to 400 layers. Layers can be of up to nine types and oriented at any prescribed angle.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Continuous Beam Analysis**
Tabulates reactions at supports and results of the calculation of deflection and/or slope, bending moment, shear force, and/or direct stress in the extreme fiber as tables of values along the beam length and/or as graphs of their distribution along the beam.
IBM PC ☐ 256 KB req.

☐ **Free Vibrations of Sway Frame Buildings**
Obtains undamped natural vibration characteristics of high-rise building of up to 20 stories modeled as sway-frame building.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Free Vibrations of Thick Cylindrical Shells**
Obtains lower natural frequencies and mode shapes of thick circular cylindrical shells. Computes natural frequencies, maximum displacement and associated stresses through shell thickness.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Natural Frequencies of Laminated Flat Plates**
Obtains lower natural frequencies of initially unstressed, specially orthotropic, rectangular flat or curved plates. Applicable to fiber-reinforced composite laminated plates.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Pressure Loss Through Duct Contractions**
Obtains pressure loss for compressible flow through sharp- or round-edged sudden contraction in duct section. Computes Mach number, and static and total pressure ratios across contraction.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Pressurized Cylindrical Shells**
Obtains values for elastic stresses in circular cylindrical shell with flat head closure under uniform external or internal pressure. Color graphics capability.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Pressurized Thin Pipe Bends in Bending**
Obtains values for elastic stresses in, and bend flexibility factor of, thin pipe bend, with or without internal pressure, under in-plane bending. Tabulates values of eight stresses at ten degree intervals around circumference of pipe. Color graphics capability.
IBM PC, XT, AT ☐ 128 KB req.

☐ **Static Shaft Analysis - Stresses**
Obtains stresses in shaft subject to various loads, and takes into account bearing stiffness and preload, shaft/bearing misalignment, thermal loads, and stress concentrations at shaft section changes.
IBM PC, XT, AT ☐ 128 KB req.

☐ **Stiffened Shell Vibrations I**
Deals with free vibration of initially stressed thin stiffened shell. Provides geometry, materials properties, loading and edge condition data.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Stiffened Shell Vibrations II**
Deals with forced vibration of initially unstressed stiffened thin shell. Provides geometry, materials properties, natural frequencies and mode shapes of shell.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Stiffnesses and Properties of Laminated Plates**
Obtains stiffnesses and apparent elastic properties of fiber-reinforced laminated rectangular plate. Provides properties of individual laminae, orientations of their lay-ups and their stacking sequence. Produces values of apparent Young's modulus, shear modulus and Poisson's ratio.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Strength of Bonded Joints in Tension or Shear**
Obtains elastic tensile or shear stresses in adherends, and in elastic shear stresses or strains in adhesive, of balanced bonded single- or multi-step lap joint with up to six steps which may differ in lengths and thicknesses.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Stresses and Deflections of Plates Under Pressure**
Obtains stresses and deflections at various positions in rectangular flat plate under uniform pressure. Choice edges free or fixed in rotation and translation, or edges free in rotation and fixed in translation or vice versa. Color graphics capability.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Undamped Vibration of Core Buildings**
Obtains undamped natural vibration characteristics of high-rise building with over three stories modeled as core building. Provides number of stories, floor masses and radii of gyration, core flexural and shear rigidities, story heights and foundation stiffness of building.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Undamped Vibration of Shear Buildings**
Obtains natural vibration characteristics of high-rise building between 4-60 stories modeled as shear building. Provides number of stories, stiffnesses, and lumped masses at each floor of building.
IBM PC, XT, AT ☐ 192 KB req.

☐ **Vibrations of Frame Structures**
Obtains natural vibration characteristics of rigidly jointed frame structure. Provides geometry of frame and data on inertial and stiffness characteristics of individual members of structure. Computes natural frequencies and mode shapes with generalized masses and stiffnesses.
IBM PC, XT, AT ☐ 192 KB req.

FIFTH DIMENSION ENGINEERING, INC.

☐ **Beam Stresses and Deflections**
Sizes elements with beam loadings. Calculates bending stress at user-selected point, deflection at that point, maximum stress/deflection, moment/shear at point and maximum moment/shear. Computes section properties I/Z for six common beam cross-sections.
IBM PC ☐ 48 KB req. ☐ Introduced: 1984 ☐ Cost: $290

GEOMETRIC DATA FLOW, INC.

☐ **DETAIL**
Structural steel detail engineering. Uses grid planes from design. Plots framing planes and elevations showing position of members and connection types assigned to each point. Details members by size and weight, combining all identical members.
IBM PC, AT ☐ 512 KB req. ☐ Copies sold: 14 since 1976 ☐ Cost: $75,000-$150,000

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ **CAEDS Base**
IBM no. 5669-206, 5713-AAA. Computer-Aided Engineering Design System. General application support, model file access, graphics device support and dialog management for all other CAEDS modules.
IBM RT ☐ Cost: $1,655

☐ **CAEDS Graphics Finite Element Modeler**
IBM no. 5669-209, 5713-AAD. Computer-Aided Engineering Design System. Builds and checks finite element models, analyzes each model and reviews results.
IBM RT ☐ Cost: $8,940

☐ **CAEDS Object Modeler**
IBM no. 5669-207, 5713-ABB. Computer-Aided Engineering Design System. Solid and finite element modeling. Interactively builds, visually inspects and physically analyzes objects during their creation.
IBM RT ☐ 640 (RT); 4,000 (30XX, 43XX) KB req. ☐ Cost: $6,060

☐ **CAEDS System Dynamics Analysis**
IBM no. 5713-AAF. Computer-Aided Engineering Design System. Interface to ANSYS and MSC/NASTRAN. Accepts data from CAEDS Object Modeler. Maintains compatibility while displaying solutions and results. Defines components in local coordinate systems. Detailed geometry and connectivity of component and system descriptions.
☐ 4,000 KB req. ☐ Cost: $31,500-$94,500

☐ **CAEDS System Modeler**
IBM no. 5669-208, 5713-AAC. Computer-Aided Engineering Design System. System assembly analyzes and assembles multiple objects and mechanism design analyzes system's kinematic behavior.
IBM RT ☐ Cost: $8,230

INNOVATIVE ANALYSIS, INC.

☐ **LARSA**
Linear and nonlinear, finite element method based structural analysis and design system. Printed or graphics output.
IBM PC

INTERCEPT SOFTWARE
(division of S. Levy, Inc.)

☐ **Libra**
Structural or thermal finite element analysis. Node and element generation. Handles up to 4,000 nodes, temperature dependent material properties, and effects of inertial and constant rotational forces. Incorporates graphics displays of model geometry in both pre- and post-processors.
IBM PC, XT, AT ☐ 640 KB req. ☐ Introduced: 1985 ☐ Cost: $1,495 (structural or thermal); $2,495 (both)

JAMES J. JORDAN, ARCHITECT-ENGINEER

☐ Sherwall
Calculates seismic load compared to winds using maximum. Calculates unit shear, and overturning and resisting moments and hold down requirements for each panel and present choices. Detailed data loaded automatically.
IBM PC ☐ 48 KB req. ☐ Introduced: 1982 ☐ Cost: $97

JP AXE ID

☐ SAFE (Structural Analysis by Finite Element)
Analyzes stress in variety of structures. Examines plane trusses, plane frames, space trusses, space frames, plane stress triangles, plane stress rectangles. Calculates forces, stress, displacements and reactions.
IBM PC ☐ 256 KB req. ☐ Copies sold: 462 since 1983 ☐ Cost: $250 and up

KERN INTERNATIONAL

☐ Structure Analysis Software for Microcomputers
Matrix analysis of 2D and 3D frames on microcomputers. Structural analysis including multi-supported beam, non-uniform beam, non-linear structures, large deformations, properties of plane areas, combined stresses, finite element mesh generation with 3D rotation, graphics display of deflections.
IBM PC ☐ 48 KB req. ☐ Cost: $48

☐ Visual Statics
Analysis of 2D and 3D mechanic problems on microcomputers. Solves static problems. Includes graphics display of forces and managements. Sets up and solves simultaneous equations using Gauss-Jurdam elimination.
IBM PC ☐ 48 KB req. ☐ Introduced: 1984 ☐ Cost: $85

☐ Visual Stress and Strain
Solves 2D or 3D combined stress problems, with emphasis on graphics display. Shows stress cubes with stress resultants drawn to scale and corresponding Mohr's circle.
IBM PC ☐ 48 KB req. ☐ Introduced: 1984 ☐ Cost: $85

LIBRARY OF ENGINEERING APPLICATIONS PROGRAMS, INC.

☐ CONSYS
Continuous beam analysis. Specifies 12 spans with 2 cantilevers. Specifies point loads and moments and partially distributed trapezoidal loads for static load analysis. Supports standard, non-standard and multiple trucks. Generates moment and shear influence lines for any point on structure.
IBM PC ☐ 256 KB req. ☐ Copies sold: 21 since 1985 ☐ Cost: $950

☐ PRESTO
Prestressed member design. Models double tees, keystone joists, hollow core slabs, solid slabs, L-beams and others. Specifies cantilevers at either or both ends. Uses regular, stress-relieved or low relaxation strands in design. Allows point and partially distributed trapezoidal loads.
IBM PC ☐ 256 KB req. ☐ Copies sold: 16 since 1985

MACNEAL-SCHWENDLER CORP.

☐ AutoFEM (Finite Element Modeling)
Converts AutoCAD-generated design into finite element model which can be analyzed by MSC/pal2. Supports color graphics and access to all AutoCAD commands. Requires 8087 or 80287 numeric co-processor and IBM color graphics adapter.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $295

☐ MSC/Case
Table of equations for structural analysis and engineering, graphics and numerical evaluation.
IBM PC ☐ Cost: $895

☐ MSC/pal
Mechanical design analysis using finite element method. Solves problems in static analysis, natural frequency response and transient response. Full graphical pre-and post-processor package.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 550 since 1984 ☐ Cost: $995

☐ MSC/pal2
Performs finite element analysis. Includes quadrilateral and triangular plates, shear panels and straight and curved beams. Applies nodal, pressure, line and gravity loads. Performs stress and vibration analysis. Includes pre- and post-processing graphics.
IBM PC, XT, AT ☐ Cost: $1,995

MTI SOFTWARE

(formerly DISCO-TECH, division of Morton Technologies, Inc.)

☐ Beam-1
Analyzes reactions, shears and moments for loading conditions on simple beam. Calculates triangular loads using appropriate point loads. Displays maximum deflections. Analyzes simple beams with/without cantilevers on either/both end.
IBM PC ☐ 64 KB req. ☐ Copies sold: 570 since 1982 ☐ Cost: $145

☐ Elfan
Predicts performance of continuous grade beam foundations under multiple load conditions. User inputs design dimensions, load conditions, moment of inertia, modulus of elasticity of grade beam. Grade beams include 99 vertical loads. Calculates every point load and chosen point.
IBM PC ☐ 64 KB req. ☐ Copies sold: 970 since 1981 ☐ Cost: $220

☐ Footing
Handles isolated footing design with variety of types including continuous, square and rectangular isolated footings. Use of steel reinforcement can be compared to plain concrete.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,152 since 1981 ☐ Cost: $110

☐ Foundation Design Package
Includes PolEm, Footing, PGB, and ELFAn. Provides solutions for reinforced concrete foundation design problems.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,000 since 1982 ☐ Cost: $500

☐ PGB
Develops optimum pier and grade beam foundations. User enters design strengths of concrete and steel, grade beam width/depth, pier design diameter and allowable skin fraction and uplift, and nine independent live/dead loads. Calculates maximum pier spacing, and shear reinforcement.
IBM PC ☐ 64 KB req. ☐ Copies sold: 975 since 1981 ☐ Cost: $150

☐ Polem
Determines minimum embedment depth for constrained/unconstrained, laterally-loaded poles. Reviews validity of user-entered design features. Performs design calculations and displays design depth.
IBM PC ☐ 64 KB req. ☐ Copies sold: 1,112 since 1981 ☐ Cost: $80

☐ Retwall
Designs retaining wall. Displays maximum height of wall for given loading condition when masonry stresses exceeded. Powered concrete option allows straight or tapered sides to handle stress.
IBM PC ☐ 64 KB req. ☐ Copies sold: 500 since 1980 ☐ Cost: $250

☐ Tiltwall
Designs concrete walls with thickness less than normally allowed by height/thickness ratios. Designs meet Uniform Building Code Section 2610 or American Concrete Institute requirements. User sets design parameters.
IBM PC ☐ 64 KB req. ☐ Copies sold: 150 since 1983 ☐ Cost: $350

NUMBER CRUNCHER MICROSYSTEMS, INC.

☐ SAP86
Finite element program for 2D and 3D static and dynamic analysis of linear structural systems. Provides element library. Interactive I/O capabilities. Prepares models using full-screen data forms and/or MICROTAB preprocessor with interactive 3D graphics.
IBM PC, XT, AT ☐ 640 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $1,495

NUMERICS CORP.

☐ FE2000
Finite element analysis. Covers linear/nonlinear static stress, vibration modes and frequencies, heat transfer, plasticity, nonlinear elastic, rigid links, multipoint constraints, coupling, bandwidth minimization, and convection boundary conditions. Library of 40 elements for 2D and 3D models.
IBM PC ☐ 512 KB req. ☐ Copies sold: 40 since 1985

PENG ENGINEERING

☐ LOCALC
Tests for local stresses in cylindrical shells. Based on WRC-297 standards. Studies opening on each shell and restraining effect of nozzle wall. Evaluates pipe connections on cylindrical vessels.
IBM PC, XT, AT, RT ☐ 512 KB req.

☐ LOCALS
Tests for local stresses in shells. Based on WRC-107 standards. Studies spherical and cylindrical shells.
IBM PC, XT, AT, RT ☐ 512 KB req. ☐ Cost: $1,500

☐ QFLEX
Finite element method based piping flexibility checking system. Studies elements, restraints and loadings. Produces isometric plots. Outputs input echo, pipe data, system description, anchor and support force, member force and stress, modal displacement and maximum responses.
IBM PC, XT, AT, RT ☐ 512 KB req. ☐ Cost: $3,000

☐ SIMFLEX.S
Static piping stress analysis. Studies weight, thermal plus weight, wind direction, earthquakes and earthquake support displacement and load cases. PC version of SIMFLEX-II.
IBM PC, XT, AT, RT ☐ 512 KB req.

POSTEN DESIGN SYSTEMS, INC.

☐ BIAXICOL
Assists design of rectangular columns for biaxial bending.
IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1977 ☐ Cost: $200

☐ EZETABS
Performs second order analysis of frame and shear wall buildings to include P-Delta effects. Determines lateral sideway stability of building structure including printing of buckling load factors. Computes column moment magnifiers due to P-Delta effect. Static seismic design per 1982 UBC.
IBM PC ☐ Copies sold: 30 since 1977 ☐ Cost: $2,000

☐ GLULAMB
Designs glu-lam roof or floor beams in AITC and UBC code.
IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1977 ☐ Cost: $200

☐ LONGCOL
Designs long slender rectangular reinforced concrete or post-tensioned concrete columns.
IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1977 ☐ Cost: $200

☐ RETWALL
Designs and analyzes reinforced concrete retaining walls.
IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1977 ☐ Cost: $200

☐ SLENDERCOL
Computes ultimate load on long slender rectangular reinforced concrete or post-tensioned concrete columns.
IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1977 ☐ Cost: $200

☐ SPIRACOL
Designs round columns' axial plus moment loads.
IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1977 ☐ Cost: $200

☐ STEELFLANGE
Locates allowable moment for I-beam or channel sections with laterally unsupported flanges, using AISC Code specifications.
IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1977 ☐ Cost: $200

☐ TAPERGLU
Designs tapered glu-lam beams and girders based on AISC and UBC Codes.
IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1977 ☐ Cost: $200

☐ TAPERSTEEL
Designs tapered steel girders.
IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1977 ☐ Cost: $200

☐ TILTUP
Designs high slender tilt-up bearing walls subjected to lateral loads.
IBM PC ☐ 256 KB req. ☐ Copies sold: 30 since 1977 ☐ Cost: $200

THE RAND GROUP, INC.
(subsidiary of Intergraph Corp.)

☐ Rand Micas
Frame and finite element-based analysis and design for engineers.
IBM XT, AT ☐ 512 KB req. ☐ Copies sold: 100 since 1974 ☐ Cost: $7,500-$9,995

RESEARCH ENGINEERS, INC.

☐ STAAD-III
Analyzes planar and 3D structures comprised of any combination of beam, truss or thin shell elements. Used for design of concrete beams and columns and selection of steel members according to current ACI and AISC codes.
IBM PC ☐ 640 KB req. ☐ Copies sold: 500 since 1977 ☐ Cost: $3,000-$12,000

SCS, INC.

☐ BeamBoss
Finite element analysis. Interactive graphics builds models and analyzes results. Frames of beam and/or truss members with torsional and linear springs. Displacements, internal forces, shears and moments, graphically and printout.
IBM PC ☐ 256 KB req. ☐ Cost: $395

SDRC CAE INTERNATIONAL, INC.

☐ I-DEAS Supertab
Interactive pre and post-processing finite element modeling. Includes Triquamesh enhanced mesh generator for irregular surfaces, Anser for finite element analysis and Optisen structure optimization module. Integrates with Geomod and other GE-CAE International programs. Interfaces CAD/CAM through IGES files.
IBM RT PC 6150 ☐ Copies sold: 500 since 1975 ☐ Cost: $5,000

SOFTEK SERVICES, LTD.

☐ G-Frame
Grid analysis system with quantitative graphics including undeformed/deformed geometry and all forces for both load cases and combinations.
IBM PC ☐ 320 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $1,500

☐ P-Frame
Plane frame analysis system with quantitative graphics including undeformed/deformed geometry and all forces for both load cases and combinations.
IBM PC ☐ 512 KB req. ☐ Copies sold: 300 since 1983 ☐ Cost: $1,500

☐ S-Frame
Space frame analysis system with quantitative graphics including undeformed/deformed geometry and all forces for both load cases and combinations.
IBM PC ☐ 512 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $2,000

SOFTWARE CONSULTING SPECIALISTS, INC.

☐ BeamBOSS
Interactive graphics driven 2D frame analysis system. Analyzes 2D structures composed of beam and/or truss members using finite element analysis.
IBM PC ☐ 256 KB req. ☐ Cost: $395

THE SOFTWARE ENGINEERING CO.

☐ AISCFILE
Design data for W, M, HP and S shapes, American standard and miscellaneous channels, W, M and S tees, angles, pipes and structural tubings. Accesses structural steel member design properties.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $75

☐ AXICOL
Steel column design for axial loads. Calculates floor dead, live and special loads. Prints running totals of floor loads, column weight, design load and selected column sizes.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $150

☐ BASEPL
Analyzes and designs column base plates and anchor bolts for axial compression plus bending loads. Input consists of AISC W, S, M and HP shapes. Output consists of depth, width and thickness of base plate, anchor bolt size and concrete and steel stresses.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $150

☐ BEAMCOL
Design or analysis of steel beam columns. Selects W-, M-, S- or HP-shape beam columns from shape tables. Accepts entry of end and interior moments. Designs for any combination of biaxial bending plus axial tension or compression.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $175

☐ COBEAM
Analyzes continuous beams or rigid frames. Inputs beam and column sizes or moment of inertia, spans, dead and live loads and support conditions. Studies uniform, partial linearly varying, concentrated force, cantilever and end bending moments. Outputs dead and live load shears and bending moments.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $125

☐ COLFTG
Designs isolated columns spread footing, square or rectangular, subjected to various combinations of forces such as gravity, wind and earthquake or vertical, horizontal or bending loads. User specific plan dimensions and footing thicknesses. Outputs load input, final footing size and selected reinforcements.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $150

☐ PFRAME
Formulates and solves equilibrium, force-deformation and compatibility equations for 2D linearly-elastic systems composed of beams and bar members. Outputs for each load case and combined load joint displacements, member forces, support reactions and structure weight.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $400

☐ RCCAD
Analyzes reinforced concrete columns with uniaxial or biaxial bending. Studies columns of any geometric shape and reinforcing of any arrangement. Analyzes any number of columns per single run. Outputs moment and axial load values.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $300

☐ Sections
Calculates section properties for arbitrary shapes. Calculations include area, center of mass for floor and perimeter wall elements that may be used in lateral analysis, shear stress at any level within each section.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $75

☐ SWALL
Distributes lateral wind or seismic loads to system of shear walls or frames including skewed elements. Analyzes up to 50 walls and 40 levels. Outputs location of center of rigidity and design wall shears due to direct shear and torsional moments.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $350

☐ TDTRUSS
Formulates and solves equilibrium, force-determination and compatibility equations for 3D linearly-elastic systems composed of axially loaded bar members. Outputs joint displacements, member axial force, stress, displacement and strain and support reactions.
IBM PC, XT ☐ 48 KB req. ☐ Cost: $300

SRAC

☐ COSMOS/M
2D/3D finite element analysis. Interactive pre- and post-processing, structural and heat transfer capabilities. Color graphics and mesh generation. Evaluates 1400 structural and thermal nodes.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 50 since 1985 ☐ Cost: $1,995

SST SYSTEMS, INC.

☐ CAEAUTO
Interface between SST's CAE software and AUTOCAD drafting program.
IBM XT, AT ☐ 640 KB req. ☐ Cost: $1,600

☐ CAEFRAME
Static analysis of 3D frame structures consisting of beam, truss and plate elements. Generates models. Provides material properties, AISC sections and pipe size data bases. Joint and element generation options. Tracks software usage. Includes error diagnostics and graphics.
IBM XT, AT ☐ 640 KB req. ☐ Cost: $2,900-$4,900

☐ CAENOCYL
Performs linear stress and flexibility analysis of radial nozzle or pipe penetrations in cylindrical vessels and tanks. Performs 6 external load components, and nozzle and vessel pressure. Based on closed-form solutions in shell theory.
IBM XT, AT ☐ 640 KB req. ☐ Cost: $5,600

☐ CAENOZLS
Performs linear stress and flexibility analysis of radial nozzle or pipe penetrations in spherical vessels or cylindrical vessel heads. Performs 6 external load components, nozzle and vessel pressure, and different temperature change for each component. Based on closed-form solutions in shell theory.
IBM XT, AT ☐ 640 KB req. ☐ Cost: $5,600

☐ CAEPIPE
Performs linear, static analysis of 3D process, power and nuclear piping system. Provides pipe and insulation materials, pipe size and standard pipe hangers data bases. Generates piping models. Tracks software usage. Includes error diagnostics and graphics.
IBM XT, AT ☐ 640 KB req. ☐ Cost: $7,900

☐ CAEPIPE Dynamic Option
Performs seismic analysis and design of piping systems using response spectrum method. Add-on to CAEPIPE.
IBM XT, AT ☐ 640 KB req. ☐ Cost: $3,600

☐ CAETRANS
Interface between SST's CAE software.
IBM XT, AT ☐ 640 KB req. ☐ Cost: $1,600

STRESS ANALYSIS ASSOCIATES, INC.

☐ Beamvibs
Calculates static and dynamic analysis of vibrating or static beams. Accommodates shafts for rotating machinery, beams and equipment affected by seismic loads. Calculates frequencies, deflections, moments, reactions and stresses.
IBM PC ☐ 128 KB req. ☐ Copies sold: 40 since 1980 ☐ Cost: $345

☐ Codeflange
Flat-faced and raised-face, pipe flange stress analysis. Calculates weld neck, slip on, lapped, optional and reverse. Stress calculation uses SECTION III or VIII of 1983 Boiler Code. Flat faced supports nine APPENDIX Y of SECTION VIII possibilities.
IBM PC ☐ 128 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $185-$195

STRUCTSOFT, INC.

☐ PCSA
Creates and maintains leveled data flow diagrams and project data dictionary. Includes bit-block transfer operations and object-oriented pop-up menus on bit-mapped hi-res display with mouse. Provides dragging, rubber banding, smooth curve generation, consistency checking for diagram balancing and global name replacement.
IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 300 since 1985 ☐ Cost: $995

STRUCTURAL ANALYSIS, INC.

☐ FRAME
Analyzes and designs reinforced concrete frames consisting of one floor and adjacent columns. Generates moment envelope and shear diagram. Includes dead or live concentrated or distributed loads. Includes effect of wind moments.
IBM PC ☐ 256 KB req. ☐ Copies sold: 60 since 1981 ☐ Cost: $750

☐ POST
Analyzes and designs post-tensioned concrete frames. Solves for all conditions of alternately loaded bays. Generates moment envelope and shear diagram. Dead or live concentrated or distributed loads and wind or seismic moments. Performs live load reductions. Computes deflections.
IBM PC ☐ 256 KB req. ☐ Copies sold: 75 since 1980 ☐ Cost: $2,498

☐ RATIONAL
Performs rational analysis of a building comprised of multi-story rigid frame, with/without shearwalls acted upon by horizontal loads. Computes wind forces, effect of second order deformations, and non-linear material characteristics. Designs forces for columns and beams.
IBM PC ☐ 192 KB req. ☐ Copies sold: 50 since 1981 ☐ Cost: $1,000

☐ STEEL
Analyzes and designs structural steel frames consisting of one floor and adjacent columns. Solves for all conditions of alternately loaded bays and generates a moment envelope and shear diagram. Includes dead or live concentrated or distributed loads and wind loads.
IBM PC ☐ 192 KB req. ☐ Copies sold: 35 since 1981 ☐ Cost: $898

STRUCTURAL DATA, INC.

☐ Post-Tensioned Concrete Structure Analysis and Design
Designs beams, slabs and flat plates. ACI Code 318-83 compliant. Available for English or metric unit systems.
IBM PC ☐ Cost: $6,500

STRUCTURAL MEMBERS USERS GROUP

☐ Structural Member Analyses
Programs for static, stability, dynamic response and stress analysis of structural members and mechanical elements. Models members with continuous or lumped mass. Calculates static and steady state displacements and forces, natural frequencies and mode shapes, buckling loads, sectional properties and stresses.
IBM PC ☐ 256 KB req. ☐ Copies sold: 275 since 1973 ☐ Cost: $400

STRUCTURAL SOFTWARE SYSTEMS

☐ FATPAK (Frame and Truss Package)
Structural analysis of frames and trusses in 2D or 3D. Uses interactive or disk file input. Plots original geometry on monitor screen.
IBM PC ☐ 64 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $249

☐ TRUSILPC (Truss Influence Lines)
Computes ordinates of influence lines for member forces in general plane truss. Uses interactive or disk file input. Plots influence lines on monitor screen.
IBM PC ☐ 64 KB req. ☐ Copies sold: 25 since 1985 ☐ Cost: $149

STRUCTURAL SOFTWARE, INC.

☐ Analysis and Design of Flat Plate/Slab
Analyzes and designs reinforced concrete flat plate or flat slab. Uses modified five cycle moment distribution procedure to solve for moments and shears. Computes slab punching shears and compares them against allowable code values.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 90 since 1985 ☐ Cost: $475

☐ Analysis and Design of Reinforced Concrete Beam
Analyzes and designs a reinforced concrete beam by strength method. Designs rectangular or T beams. Considers torsion in combination with shear and bending. Analyzes 20 separate uniform loads and 20 separate concentrated loads in any one problem.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 110 since 1984 ☐ Cost: $400

☐ Analysis of Continuous Beam
Analyzes prismatic or non-prismatic continuous beam with or without cantilevers at either end. Accommodates up to 20 spans. Computes reactions and moments at each support. Calculates moments and deflections between supports, at point intervals, for each span.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 70 since 1984 ☐ Cost: $400

☐ Beam to Column Connection
Designs steel beam to steel column connection subjected to bending moment and vertical shear. Beam may frame into column flange or column web. Calculates and designs required connection to resist applied bending moment and vertical shear force.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 40 since 1982 ☐ Cost: $400

☐ Cantilever Beam Analysis
Analyzes cantilever beam subjected to uniform loads, partial uniform loads, triangular loads, partial triangular loads and concentrated loads.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 42 since 1982 ☐ Cost: $150

☐ Column Base Plate Decision - Axial Load and Bending Moment
Designs column base plate that is subjected to axial load only or one that is subjected to axial load and bending moment.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 70 since 1985 ☐ Cost: $175

☐ Column Cap Plate Connection
Designs interior or exterior structural steel cap plate connection subjected to design bending moment. Outputs required thickness, width and length of cap plate. Provides required number and size of Hi-Tensile bolts to connect cap plate to steel beam above.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 50 since 1982 ☐ Cost: $150

☐ Combined Footing
Analyzes and designs by strength method combined footing supporting exterior and interior column or pier. Loads exterior and interior column and pier with axial loads, bending moments and horizontal shears applied about axis parallel to long dimension of footing.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 90 since 1982 ☐ Cost: $450

☐ Composite Steel Beam
Analyzes, designs and investigates any simply supported composite steel beam or girder. Computes design value of shear connectors. Shear connectors may be studs or channels. Lets user consider composite beam as having full or partial composite action.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 95 since 1982 ☐ Cost: $400

☐ Design of Diagonal 'X' Bracing
Selects area of steel brace required for frame stability, tension and compression within braced bent. Deflection/height ratio of bracing is limited to 0.002. One story or multi-story braced bent.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 55 since 1982 ☐ Cost: $125

☐ Design of Drilled Caisson (Pier) Foundation
Designs shaft and bell caissons or shaft caissons only. User can load top of caisson with vertical loads, horizontal loads and applied moments. Permits user to consider effect of negative skin friction in design.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 80 since 1985 ☐ Cost: $250

☐ End Plate Moment Connection
Designs end plate moment connection. Calculates required end plate size, number of bolts and size of bolts required for moment and shear, and required welds for moment and shear based on beam size user inputs.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 80 since 1982 ☐ Cost: $150

☐ Fixed End Beam Analysis
Analyzes simple span fixed end beam subjected to uniform loads, partial uniform loads, triangular loads, partial triangular loads and concentrated loads.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 44 since 1982 ☐ Cost: $150

☐ Fixed End/Simple Beam Analysis
Analyzes single span beam with one end fixed and one end simply supported subjected to uniform loads, partial uniform loads, triangular loads, partial triangular loads and concentrated loads.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 50 since 1982 ☐ Cost: $150

☐ General Section Properties
Computes properties of rectangular concrete section for use in deflection calculations. Calculates properties of any arbitrary shaped geometric figure that can be defined by consecutively numbered nodal points that are connected together by straight segments.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 60 since 1983 ☐ Cost: $175

☐ Isolated Spread Footing
Designs isolated spread footing. Permits design for square or rectangular footing with either footing dimension input as held dimension. Loads footing with axial loads, bending moments and horizontal shears applied about either or both axes of footing.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 75 since 1982 ☐ Cost: $425

☐ Isolated Unreinforced Footing
Designs isolated unreinforced spread footing. Permits design for square or rectangular footing with either footing dimension input as held dimension. Loads footing with axial loads, bending moments and horizontal shears applied about either or both axes of footing.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 50 since 1982 ☐ Cost: $175

☐ Pile Group Analysis
Analyzes group cluster containing 2-50 piles. Calculates pile reactions for each pile. Computes and compares sum of pile reactions of entire pile cluster to applied vertical load.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 90 since 1983 ☐ Cost: $200

☐ Plane Frame and Truss Analysis
Determines horizontal and vertical displacement and rotation of each joint. Computes axial force, shear force, and moment for each member. Determines support reactions for each support or joint restraint. Each support may be fixed, hinged, or roller support.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 225 since 1984 ☐ Cost: $500

☐ Prestressed Concrete Beam
Analyzes and designs pre-tensioned or post-tensioned prismatic prestressed concrete beam that is simply supported, has cantilevers at either or both ends, or is part of continuous system.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 90 since 1984 ☐ Cost: $600

☐ Reinforced Concrete Column
Analyzes or designs reinforced concrete column. Supports rectangular or circular column types. Bending moments may be applied about either or both axes of column. Considers effects of slenderness required, by use of modified R method.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 110 since 1984 ☐ Cost: $300

☐ Retaining Wall
Designs reinforced concrete retaining wall using strength method. Calculates bending moment, wall thickness, required reinforcement (As), % As, minimum As, and maximum As reinforcement permitted by code at 11 points for stem of constant or uniformly varying thickness with or without sloping backfill.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 110 since 1983 ☐ Cost: $450

☐ **Simple Span Beam Analysis**
Analyzes simply supported beam subjected to uniform loads, partial uniform loads, triangular loads, partial triangular loads and concentrated loads. Analyzes foundation wall restrained at top and bottom, and subjected to earth pressure, water pressure and surcharge.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 43 since 1982 ☐ Cost: $150

☐ **Space Frame & Grid Analysis**
Determines displacements and rotations of each joint about X, Y and Z global (structure) axes for any 3D frame or grid. Calculates axial force, shear force, torsional moment and bending moments for each member of frame.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 160 since 1984 ☐ Cost: $1,200

☐ **Steel Beam and Bearing Plate**
Designs or investigates adequacy of steel beam subjected to biaxial bending and axial load.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $300

☐ **Steel Column**
Investigates or designs steel column subjected to uniaxial or biaxial bending, shear forces and axial load. Wind or seismic loadings can be a part of inputted moments, shears and axial force.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 75 since 1985 ☐ Cost: $300

☐ **Timber Design**
Designs timber rafters or beams, studs, columns and truss members. Calculates size of member to suffice all loadings, based on inputted allowable design stresses. Wind, seismic, short duration, long term or continuous and impact loadings can be part of inputted design moments, shears and axial forces.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 65 since 1982 ☐ Cost: $300

☐ **Torsion Analysis and Design of Steel Beams**
Analyzes and designs wide flange steel beam subjected to plane bending and torsional loadings. Provides plane bending portion of analysis for simply supported, fixed end, cantilever and fixed end/simple end beams.
IBM PC, XT, AT, 3270-XT, XT/370 ☐ 64 KB req. ☐ Copies sold: 135 since 1983 ☐ Cost: $450

S2D, INC.

☐ **A-SAP-M2M**
Linear finite element, 2D/3D structural analysis. Static/dynamic analysis. Model plots. M2MPRE pre-processor, M2MPOST post-processor, ASAPBAND node/joint renumbering, ASAPPRN print utility, S2DSAP1 eigenvector/eigenvalue analysis and S2DSAP2 time history or response spectrum analysis functions.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $795

SUS ENGINEERING

☐ **Syframe**
Analyzes 2D multi-story frames for vertical and/or lateral loads. User inputs frame parameters, stiffnesses of members, vertical and lateral loads. Output includes final moments for all members at each joint needed for final design of members.
IBM PC, XT, AT ☐ 128 KB req. ☐ Cost: $99

SWANSON ANALYSIS SYSTEMS, INC.

☐ **Ansys-PC/Linear**
Pre/postprocessing for linear static and modal analyses. Provides element library including 1D, 2D and 3D solids, shells, beams, spars, springs, masses and mass matrices. Includes animation, 10 colors, dithering, hidden line removal, animation of shape distortion and rotation graphics capabilities.
IBM PC, XT, AT ☐ 512 KB req. ☐ Cost: $3,600

SYS COMP CORP.

(an Easinet Co.)

☐ **BASPLT-Column Base Plate Design**
Computes size and thickness of square/rectangular column base plates subject to axial loads and moments or seismic forces about both symmetry axes. Requires equal minimum plate and column sizes and same center of gravity of plate and column. Follows AISC code guidelines. No tension allowance.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $100

☐ **BASTEN-Column Base Plate with Tension on Bolts**
Design of structural steel column base plate with/without tension or anchor bolts. Utilizes minimum length and width of plate, column dimensions, material properties and applied loading. Determines minimum plate size and thickness and corresponding bolt size and bolt forces.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $125-$200

☐ **BRGWAL1-Brick, Block or Concrete Bearing Wall Design**
Evaluates and designs walls subjected to end moments, axial loads, and other earth, wind or earthquake loading. Parameters include wall weight and consider single/double steel curtains using stress and design values and Temperature steel requirements. Uses 1979 and 1977 ACI codes.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $300-$500

☐ **COLLDS - Multi-Story Column Load Take-Off Tabulation**
Compiles column for entire building or portion of building. Inputs up to four area loads and four concentrated loads or line loads in random manner for each column at each story. Computes, identifies, stores and reduces loads.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $300-$500

☐ **COMPBU1/COMPBA1**
Investigates uniformly-loaded beams or beams with any type loading, either shored or unshored subjected to dead and live loads. Parameters for study investigate steel section as composite beam. Designs optimum and minimum sections. Includes deflections, welds and connectors.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $525-$850

☐ **DETTRS - Determinate Truss Analysis**
Solves statically determinate pin-connected truss for support reactions and axial stress and member lengths. Uses method of joints. Maximum number of members is 245, corresponding number of joints is 124.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $200-$300

☐ **EQKSWL**
Determines shears and overturning moments for up to 20 walls each way on 10 stories. Utilizes dimensional descriptions of walls and weights of building elements. Determines building period, accounts for torsional increase or shear and analyzes wind or seismic forces.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $900-$1,500

☐ **EQPIER1-Brick, Block or Concrete Shear Wall or Pier Design**
Investigation for combination of vertical and lateral loads. Selects reinforcement for solid rectangular wall or pier subject to moment, shear and gravity load. Obtains moment and shear by using wind or earthquake rotational analysis program.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $300-$500

☐ **FLEX-Flexible Diaphragm Analysis**
Analyzes flexible wood or steel building diaphragms for wind or seismic loadings. Outputs input echos, diaphragm reactions, shears at 10th point and end of span, midspan moment and chord stresses for each span, and wall shear.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $300-$500

☐ **JOIST-Wood Joist Allowable Span Determination**
Prepares wood joist span load tables for various loading conditions and material selections. Analysis based on bending stress, shear deflection for live load and dead plus live load. Joist sizes 2 X 6 through 2 X 14, spaced 12, 16, 24 inches.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $100

☐ **RETWAL 2-Retaining Wall Design**
Analysis and design for block or concrete retaining walls. Designed according to concrete strength, steel yield stress, allowable soil pressure and slope of retained earth. Determines concrete thickness, footing requirements, reinforcing requirements and height of each block size.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $475-$800

☐ **SGEN-SPSTRESS Input File Generator**
Conversational input data generator program for SPSTRESS program. Outputs plot including joint and member numbers, partially scaled to represent shorter or longer moments.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $300-$500

☐ **SIM PBM-Simple Span Beam Analysis**
Analyzes simple span beams with/without cantilever under live or dead loading. Loads chosen from 16 types or shapes, combined for maximum amounts and deflection coefficients. Live load is skip loaded for maximum design values. Moment values given at 1/12 points.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $125-$200

☐ **STLBMU/STLBMA**
Analysis and design of structural steel beams for uniform loads, simple beam and cantilever loading with applied end moments and axial loads for struts and members. Investigates gravity, seismic and wind loading conditions. Determines inflection points and compares with unbraced lengths.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $525-$850

☐ **STLCOLI-Steel Column Investigation and Design**
Investigation and design of structural steel columns. Studies axial load and gravity moments in two directions and earthquake or wind axial loads and moments. Designs lightest column section, compact/noncompact sections. Takes lateral support reductions, computes column end conditions.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $375-$650

☐ **STRCHK - SPSTRESS Check**
Design of steel beams or columns. Checks against SPSTRESS results. Determines inflection points and compares with unbraced length, verifies maximum deflection. Adds three factored loadings before applying them to member and accommodates wind or earthquake design stresses.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $300-$500

☐ **STRESS-SPSTRESS General Structural Systems Analysis**
Linear analysis for 2D/3D structures subject to all loading types. Computes displacements, forces and reactions for plane truss/frame/grid and space truss/frame. Members assumed to be slender and prismatic. Non-prismatic handled through stiffness matrices or method of sections.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $1,250-$2,500

☐ **WELDBM-Welded Steel Girder Investigation and Design**
Analyzes, determines size and designs simple-span tapered or welded steel girders according to AISC code with H/T limited to 220 for uniform loading or any loading of girder. Program can be used for parallel or tapered flange up beams.
IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $400-$650

SYSTEK, INC.

☐ **Continuous Beam Analysis**
Analyzes up to 20 spans with up to 40 concentrated loads and uniform load on each span. Prismatic or variable cross-sections. Beam ends fixed, free or cantilevered. Outputs end shears and end moments.
IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1983 ☐ Cost: $47

☐ **Structural Analysis**
Input consists of joint coordinates, member incidences, support conditions, member releases, support settlements, temperature deformations and joint and member loads. Outputs joint displacements and rotations, member end forces and reactions.
IBM PC ☐ 128 KB req. ☐ Copies sold: 200 since 1984 ☐ Cost: $47

TECHART ASSOCIATES

☐ Program SST

Data base of AISC Steel Section Tables. Accesses and displays properties of single section or group of sections. Adds/deletes sections from data base.

IBM PC ☐ 64 KB req. ☐ Introduced: 1983 ☐ Cost: $150

TECHSOFT

☐ B-Sys/1

Selects steel framework for commercial buildings. Prompts user for building design parameters. Calculates and searches through pre-programmed vendor data to make selection of proper component parts. Establishes structural load requirements.

IBM PC ☐ 128 KB req. ☐ Introduced: 1985 ☐ Cost: $834

☐ C-Sys/1

Calculates concrete columns, beams and panned floors for commercial buildings. User selects concrete mix strength and building parameters. Program selects beam size and number of steel bars required to meet load.

IBM PC ☐ 128 KB req. ☐ Introduced: 1986 ☐ Cost: $834

TRUCOMP

☐ Intemp

Solves 2D finite element inverse heat conduction problems. Figures unknown flux-time histories at unlimited specified locations. Includes 1D elements, 2D triangles and planar/axisymmetric quadrilaterals. Constant material properties can be orthotropic and vary per element.

IBM PC ☐ 512 KB req. ☐ Cost: $995

☐ Tempest

Performs 2D nonlinear finite element transient heat transfer analysis including latent heat effects. Includes 1D elements, 2D triangles and planar/axisymmetric quadrilaterals. Accommodates temperature dependent, isotropic and orthotropic materials. General boundary conditions including nonlinear convection, radiation and earth/surface balance with snow cover.

IBM PC ☐ 512 KB req. ☐ Cost: $995

☐ Tempost

Accesses data file produced by Tempest. Plots model geometry with node, element or material numbers. Produces temperature contour plots of automatically- or user-selected isotherms. Time-history plots of nodal temperatures and user-selected isotherm along nodes line location. Batch or interactive input.

IBM PC ☐ Cost: $275-$1,500

UNIK ASSOCIATES

☐ General Engineering

Includes 50 engineering programs including mathematics, hydraulics, heat exchangers, structural design, spring design and gear forces.

IBM PC ☐ 48 KB req. ☐ Copies sold: 50 since 1983 ☐ Cost: $195

UNIVERSAL SOFTWARE APPLICATIONS, INC.

☐ Stress

Calculates forces, moments and displacements and analyzes trusses, continuous beams and plane frames. Number of joints (maximum 25), members (maximum 75) and loadings (maximum 99) increase with additional memory.

IBM PC ☐ 64 KB req. ☐ Copies sold: 20 since 1980 ☐ Cost: $500

VON GUNTEN ENGINEERING SOFTWARE, INC.

☐ Shear

Calculates triaxial, unconfined and direct shear tests. Displays Mohr's circles and envelope.

IBM PC ☐ 256 KB req. ☐ Cost: $499

WILEY PROFESSIONAL SOFTWARE

(division of John Wiley and Sons, Inc.)

☐ Area Moment of Inertia

Calculates area moment of inertia WK2, neutral axis location and radii of gyration for non-standard built up section. Built-up section consists of 25 components, either rectangular cross-section or structural shapes combined in any orientation.

IBM PC, XT ☐ 48 KB req. ☐ Introduced: 1984 ☐ Cost: $125

☐ Beam Analysis

Consists of 24 modules to perform classical stress analysis on single-span, horizontal beam problems with varying loads and end conditions. Twenty modules handle pre-defined problem, and 4 handle any loading conditions.

IBM PC, XT ☐ 48 KB req. ☐ Introduced: 1984 ☐ Cost: $125

☐ Beam Analysis with Selection

Consists of 20 single-span beam modules that analyze determinant and indeterminant conditions. Analyzes beams which are supported at both ends or are cantilevered. Changes elasticity value depending on material.

IBM PC, XT ☐ 48 KB req. ☐ Introduced: 1984 ☐ Cost: $200

☐ Column Buckling

Calculates safe and actual stresses from concentric and off-center loads, utilizing the Chicago or AISC building codes or user safety factor.

IBM PC, XT ☐ 48 KB req. ☐ Introduced: 1984 ☐ Cost: $125

☐ Continuous Span Analysis

Calculates moments at supports of multiple span problems containing uniform and point loads, fixed or pinned ends or cantilevered ends.

IBM PC, XT ☐ 48 KB req. ☐ Introduced: 1984 ☐ Cost: $125

☐ Spring Design

Selects the best design on input mean diameter, free length, working deflection and leading. Contains calculation routines for analyzing existing springs and for spring constant determination. With helical springs, sheer modulus default values for carbon and stainless steel are provided, or the user can specify a value.

IBM PC ☐ 64 KB req. ☐ Introduced: 1985 ☐ Cost: $125

☐ Steel Assembly Weight Determination

Determines weight of steel subsections such as rounds, rectangles, structural shapes or specials and categorizes and sums for total weight.

IBM PC, XT ☐ 48 KB req. ☐ Introduced: 1984 ☐ Cost: $125

ZEILER-PENNOCK, INC.

☐ Flat Plate/Slab

Designs or analyzes two way flat plate or flat slap with or without edge beams. Uses stiffness matrix method of analysis for calculations.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 25 since 1975 ☐ Cost: $995

☐ Olivetti Structural Pack

Linear analysis of any elastic, statically loaded, framed structure mathematically modeled as plane frame, plane truss, grid, space frame or space truss. Uses stiffness/displacement method analysis technique.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 100 since 1972 ☐ Cost: $1,995

☐ Precast/Prestressed Concrete Programs

Designs, determines or calculates design strength, corbel design, bearing ledge design, wall panel loads, section properties, torsion design, studded plate design, panel properties, and bearing plate design.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 75 since 1978 ☐ Cost: $1,995

☐ Structural Analysis and Design

Designs or analyzes continuous beams, plane frames, indeterminate trusses, cantilever retaining wall, steel column, laterally loaded pier, section properties, ultimate moment, prestressed beams, reinforced concrete column, concrete beam, wood column, wood beam, lateral shear wall and ring frame.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 125 since 1973 ☐ Cost: $3,595

TELECOMMUNICATIONS

ACCOUNT-A-CALL CORP.

☐ Inventory Control System

Tracks vital telecommunications equipment information. Provides information about telephone equipment, tracks equipment problems, maintains statistics on vendor maintenance, defines and references cabling/circuits of local and remote networks and maintains pricing information. Includes GL interface and trouble ticket control. PC online update available.

IBM PC, XT ☐ Cost: $12,000

☐ ITAS (Interactive Traffic Analysis System)

Performs optimizations and/or simulations of voice communications network. Calculates number of trunks needed to meet service requirements. Supports WATS, Foreign Exchange (FX), leased lines, toll trunks and Special Common Carriers (SCC). Accepts summary traffic information.

IBM PC ☐ 512 KB req. ☐ Cost: $5,000

ALPHANETICS

☐ Auto Dialer

Telephone number data base and dialing program using autodialing modem. Uses access codes and Sprint or MCI dialing reduced to single keystroke. Prints sorted master directory for reference and dialing. Allows 1,800 names, addresses, telephone numbers and comment lines.

IBM PC, XT, PCjr ☐ 64 KB req. ☐ Copies sold: 12,000 since 1981 ☐ Cost: $50

AMERICAN INTERNATIONAL COMMUNICATION CORP.

☐ GRAM-A-SYST DCS 200

Western Union Easylink service interface. Accesses services from FYI, Western Union's help, electronic mail, cablegram, telegram and telex, both domestic/international. Automatic archiving of incoming/outgoing messages, telex directory, name and address directory and built-in editor.

IBM PC ☐ 192 KB req. ☐ Copies sold: 2,000 since 1983

☐ TLX-A-SYST DCS 300

Interface to ITT Timetran and Interactive Telex, ITT Speedmail, and ITT Update. Autolog-on, full screen editor, auto archive, message traffic log, built-in directories for Telex numbers, names and addresses, built-in clock, off-line message preparation, 300/1200 baud.

IBM PC ☐ 256 KB req. ☐ Copies sold: 2,000 since 1982

AMERICAN TELEPROCESSING CORP.

☐ Proto.Call

Features full concurrency, auto-dial, auto-answer, and message file system. Contains editor, manual/automatic calls. All messages stamped and logged. Password, encryption and audit trail reports.

IBM PC ☐ 256 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $795

APPLIED VOICE TECHNOLOGY, INC.

☐ PHONEXPRESS

Voice processing. Voice store and forward, data collection and dissemination. Includes card for digitizing voice and connecting to telephone. Plugs into PC expansion slots. Provides voice messaging and response to touchtone entry. Expandable, concurrent and interfaces with spreadsheets and DBMS.

IBM XT, AT ☐ 640 KB req. ☐ Cost: $6,000

AT&T INFORMATION SYSTEMS

☐ Telephone Manager/Electronic Mail

Telephone call management, on-screen directory, call history and dialing services. DEC VT100 terminal emulation and file transfer capabilities under Xmodem, X.PC and PC 6300 protocols. Sends and receives files. Compatible with AT&T Mail and AT&T's Message Transfer Architecture.

☐ Cost: $279

BCR ENTERPRISES, INC.

☐ FAST (Financial Analysis Software for Telecommunications)

Problem solving and tutorial. Calculates cash flows and present values for telecom capital equipment in lease, purchase, or installment purchase situations. Stores proposals for future retrieval and/or modification. Print option and cash flow analysis.

IBM PC ☐ 128 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $395

☐ First Course in Telephone Traffic Engineering

Traffic problem solving and tutorial for network design and training. Records real or hypothetical traffic data to simulate particular situations. Provides key traffic and cost information through what-if methodology.

IBM PC ☐ 64 KB req. ☐ Copies sold: 900 since 1983 ☐ Cost: $395

BENTON, SCHNEIDER & ASSOCIATES, INC.

☐ Caps

Summarizes and reports detailed usage for cost allocation and provides basic traffic statistics for network analysis. Incorporates service and equipment costs into existing reporting structures. Automated procedures available to conduct network analysis with generated data.

IBM XT ☐ 64 KB req. ☐ Copies sold: 25 since 1979 ☐ Cost: $9,000

CCMI/MCGRAW HILL

☐ Call-Pricer

Allows definition of rates of local resellers. Prices MTS service by single call or entire bill. Cost optimizes 6-digit translation for PBX loading.

IBM PC, XT, AT ☐ Copies sold: 250 since 1985 ☐ Cost: $295-$895

CMC INTERNATIONAL, INC.

☐ PC-Dial/Log

Consists of software and PCB that digitizes voice messages. Messages stored and manipulated to accommodate outgoing or incoming calls. Makes calls in unattended mode. Provides 200 member user-defined phone book. Accommodates 20 messages and records 40 incoming calls.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 2,000 since 1984 ☐ Cost: $595

COM DEV, INC.

☐ Centrad

SMDR network polling system. Retrieves usage data stored in remote STU SMDR storage units. Provides sync link to host. Transmits data to be processed. Supports unattended polling operation. Produces polling activity reports.

IBM PC, XT, AT ☐ 512 KB req. ☐ Introduced: 1986 ☐ Cost: $6,000-$12,000

COMMERCIAL SOFTWARE, INC. (NY)

☐ TASC (Telemanagement Applications Support Center)

Integrated or standalone modules include CADETS, TEMS, IDS, IMPACT, TRAMS, NODE/1 and NDMS. Provides work order preparation, equipment and service IC, cable plant management, directory maintenance, call detail recording processing, network design/engineering/management, telecommunications cost allocation and trouble reporting.

IBM XT ☐ Introduced: 1978

COMMONWEALTH COMPUTER ASSISTANCE FOR BUSINESS

☐ Redial

Redialer for Symphony. Provides menu of telephone numbers. Prompts for whether and how many times to redial. Built-in range for capturing telecommunication session log. Includes starter set of numbers, comunications settings sheet and newsletter article describing Symphony telecommunications and Redial.

IBM PC, XT, AT ☐ 9 KB req. ☐ Introduced: 1986 ☐ Cost: $20

COMMUNICATIONS ANALYSIS

☐ PULSE

Telephone call accounting system. Designed for firms that bill-back clients for telephone expenses. Holds 10,000-12,000 call records per diskette. Report writer. Supports PBXs that output records via RS/232 interface. Call buffer is available.

IBM PC ☐ Cost: $1,995-$2,495

COMPUTER COMMUNICATIONS SPECIALISTS, INC.

☐ ACCA System

Allows IBM Series 1 or PC to communicate with batch buffered async device via voicegrade telephone. Uses portable terminals in many commercial/industrial applications. Allows 1- or 2-way communication between terminal and host.

IBM PC, XT, AT ☐ 128 KB req. ☐ Copies sold: 400 since 1980 ☐ Cost: $5,000-$25,000

COMPUTERISED BUSINESS SYSTEMS, INC.

☐ CTS (Computerized Telephone Traffic System)

Polls data from traffic accumulators. Reports daily, weekly and average business day peg counts. Includes hourly, 24-hour and maximum busy hour usage engineering studies. Hourly data, daily/weekly summary and study analysis holding times. Reports annual traffic factors and conversation time only.

IBM PC ☐ 640 KB req. ☐ Copies sold: 8 since 1985 ☐ Cost: $19,995

CONTEL INFORMATION SYSTEMS, INC.

(subsidiary of Continental Telecom, Inc.)

☐ MIND-Voice

Designs/optimizes single-site voice communications networks. Handles networks consisting of common carrier tariffs.

IBM PC ☐ 500 KB req. ☐ Copies sold: 15 since 1982

DIGITAL COMMUNICATIONS ASSOCIATES, INC. (DCA)

☐ ETI Line Pricer

Calculates rates for voice, data, and other private line services specified by interstate tariffs of AT&T, MCI, GTE and other common carriers. User can forecast and evaluate line charges and termination costs.

IBM XT, AT

ECONOMICS AND TECHNOLOGY, INC.

☐ PLP (Private Line Pricer)

Allows managers to plan, manage and control interstate private-line network costs. Evaluates costs under AT&T and LEC special access tariffs. Prices point-to-point and multi-point circuits for 4 service types. Contains 48 state V and H coordinates.

IBM PC, XT ☐ 512 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $2,495

FTCC MCDONNELL DOUGLAS INTERNATIONAL TELECOMMUNICATIONS CO.

☐ Message Handler

Turns IBM PC or XT into telex or messaging center. Sends and receives messages, retries calls, validates answerbacks, queues messages, records transactions and archives messages. Accesses FTCC's international and domestic communications services and dial-up DDD services.

IBM PC, XT, AT ☐ 256 KB req. ☐ Introduced: 1984 ☐ $250

GALACTICOMM, INC.

☐ Software Breakthrough

Builds multi-user, dial-up applications. Supports 64 simultaneous users, modem function control, selectable I/O buffer sizes, bidirectional touchtones, busy/ringing/voice detection, parity-error handling, incoming character translation, interactive or transparent-binary operation modes, echo control and channel monitoring.

IBM XT, AT ☐ 128 KB req. ☐ Cost: $7,450

GENASYS CORP.

☐ Telios

Reviewed Jan 1985 p. 130.

Provides micro-to-host or micro-to-micro link. Operates at 110 to 9600 baud. Works with any modem. Uses available memory as screen buffer, allows scroll back. Features user-definable color, port switching commands, XMODEM and KERMIT file transfer protocols.

IBM PC ☐ 96 KB req. ☐ Copies sold: 800 since 1983 ☐ Cost: $120

GRANADA SYSTEMS DESIGN, INC.

☐ TELDEAR-Audio Response

Data keyed in from any touch tone telephone. Prompts user by digitized voice. All responses recorded on disk. Order collection system available 24 hours. Bank balance inquiries in voice. Industry adjustable.

IBM PC, AT, XT ☐ 256 KB req. ☐ Copies sold: 24 since 1981 ☐ Cost: $17,500

HELICON MANAGEMENT SYSTEMS, INC.

☐ COMCOP

Tracks ROLM CBX user, equipment and trunk problems. Controls equipment inventory. Generates user, system speed and forced authorization code directories. Optional CALLCOP processes calls directly from ROLM CBX's serial interface to generate detail and summary bills, analyze trunk utilization, detect telephone misuse and analyze patterns.

IBM XT, AT

HENSON SYSTEMS, INC.

☐ ADMIN-Remote Administration and REMOTE-Remote End User Node

On-line troubleshooting of hardware and software. ADMIN programs reside at central administration site. Each controls six REMOTE and user nodes. Concurrent end user and ADMIN system execution permitted. REMOTE programs autodial ADMIN program with end user logon and ID.

IBM PC ☐ Copies sold: 3 since 1983 ☐ Cost: $60-$600

HTL TELEMANAGEMENT, LTD.

☐ NTD-1 Long Distance Analyzer

Quantifies number of traffic hours eligible for each trunk group being considered and reports parameters needed for analysis and design. Optional report consisting of breakdown by service area and area code for total number of calls, hours and cost is available.

IBM PC, XT, AT ☐ 256 KB req.

☐ NTD-4 Traffic Engineer's Tool Kit

Determines line numbers required to obtain grade of service, grade of service of existing configuration, traffic carried on each trunk in group, costing for set of lines/hours, queue period and desired queuing parameters, and optimization involving 1 WATS-like trunk group with overflow to DDD.

IBM PC, XT, AT ☐ Cost: $500-$895

☐ NTD-6 Switch Designer

Designs least cost configuration of trunk groups or analyzes specified configurations including up to 10 FX groups, intrastate WATS, dedicated OCC as first choice routing, 5 AT&T WATS bands and DDD. Includes current AT&T WATS and major OCC rate files.

IBM PC, XT, AT ☐ 512 KB req.

☐ NTD-7 ACD Designer
Configures telephone trunking facilities to accommodate calling and agent response patterns. Utilizes historical traffic studies to assist in planning future agent staffing and trunking configurations. Performs economic trade-off analysis of number of agents vs. cost of WATS, FX or lost calls.
IBM PC, XT, AT ☐ 256 KB req.

☐ NTD-9 Enhanced Switch Designer
Optimizes configurations with over 1,000,000 hours per month with wide range of facilities. Permits user to constrain certain trunk groups within design to existing number of circuits and then reoptimizes.
IBM PC, XT, AT ☐ 512 KB req.

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Personal Telephone Manager Program
IBM no. 6429-190. Connects telephone to PC for creating and maintaining telephone directories and reminders, facilitating 1-key dialing, audible call progress and redial lists.
IBM PC, XT, AT, 3270-PC, 3270-AT ☐ 108 KB req. ☐ Cost: $70

THE IMS GROUP

☐ Telephone Software
Allows communications engineers and managers to manage and control telephone systems' design, operation and costs. Operates from single data base. Modules include equipment manager, maintenance manager, cable manager, call accounting manager and message center manager.
IBM PC ☐ Cost: $10,000

THE INFO GROUP

☐ ATMS (Automated Telecom Management System)
Designed around relational data base, applications include CDR pulling, call accounting, work order, inventory, trouble management, cable management, directory and network optimization.
IBM AT ☐ 256 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $30,000-$200,000

☐ Info-Call
Collects data from multiple PBXs. Combines activity from varying locations. Handles multiple carrier types. Interfaces with other facility management software.
IBM PC, AT ☐ 128 KB req. ☐ Copies sold: 150 since 1979 ☐ Cost: $15,000-$30,000

☐ Network Optimizer
Optimizes network trunking configuration based on actual or projected traffic and various vendors offerings. Uses output from Info Group's Info-Call. Designs single and multiple node configurations.
IBM PC ☐ 128 KB req. ☐ Copies sold: 50 since 1980 ☐ Cost: $7,500

☐ TFMS (Telecom Financial Management System)
Financial controls on voice and data telephone bills, expenses and vendors. Records billing information on formatted screens. Actual to budget, percent change, YTD, summaries by varying categories and exception reporting. Integrates into other Info Group packages.
IBM AT ☐ 256 KB req. ☐ Copies sold: 10 since 1984 ☐ Cost: $15,000-$20,000

INFORTEXT SYSTEMS, INC.

☐ OS Call Accounting System
Provides details by extension, client or trunk to bill clients or departments and manages phone system. Standard reports include detail, summary, exceptions, usage and traffic analysis. Handles 100-2,500 stations and 10,000-350,000 call records.
IBM PC

INSTANT INFORMATION, INC.

☐ Instantcom TMT
Accesses ITT's Timetran service for interactive or store/forward Telex messaging. Auto-dial and auto-logon. Formats message. Prints and archives on-line sessions. Built-in word processor or imports other word processing programs. Message management. Includes general communications module.
IBM PC ☐ 256 KB req. ☐ Copies sold: 3,000 since 1984 ☐ Cost: $120

INSTOR CORP.

☐ Call Analyzer
Provides call costing, reporting and high-volume data capture from PBXs and electronic key systems. Includes V and H costing and rates for OCC, AT & T, local, intrastate, interstate and international calls.
IBM AT, XT ☐ 256 KB req. ☐ Copies sold: 100 since 1983 ☐ Cost: $9,000

INTERNATIONAL INFORMATION SERVICES

☐ Easytalk
Telecommunications program for Western Union Easylink. Function keys provide automatic dial up, sign on and transmission of message files. Saves incoming messages. Printer toggle allows optional hard copy for communication activity.
IBM PC ☐ 96 KB req. ☐ Copies sold: 450 since 1983 ☐ Cost: $95

KUSTOM ELECTRONICS, INC.

Path Bank Division

☐ Micro-KAD
Computer-aided dispatch system for business or public safety agencies. Features user configurable screens. Provides several access levels. Reports include activity analysis by zone, day, hour or average response times.
IBM PC, AT

MAINTENANCE AUTOMATION CORP.

☐ Telephone Chief Software
Tracks and manages installation and maintenance of telephone systems. For systems of more than 300 lines.
IBM PC ☐ 256 KB req. ☐ Copies sold: 5 since 1986 ☐ Cost: $3,000-$9,000

MCI INTERNATIONAL

☐ COMM Desk
Accesses MCI International Telex and MCI Mail communication services. Allows software in background mode to run simultaneously while communicating. Collects mail, sends and receives messages and maintains system and message status logs. Provides menus, help screens and built-in editor.
IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 150 since 1985 ☐ Cost: $295

MICRO-SYSTEMS SOFTWARE, INC.

☐ Miracle
Telecommunications built around 4 window spreadsheet and word processor. Downloads information and reformats into spreadsheets, charts, technical and functional analyses, and word processing. User may write agenda for tasks to be performed unattended.
IBM PC ☐ Cost: $299

☐ MTERM II
Allows computer to function as terminal. Provides functions for file transfer and on-line data storage/retrieval. Features character mode translation, user-defined macrokeys, spooled printer support and auto-dial support. Supports direct to disk file transfer in xmodem and xfer protocols.
IBM PC ☐ 48 KB req. ☐ Copies sold: 2,500 since 1982 ☐ Cost: $120

MICROCORP

☐ Intelliterm
Communicates with mainframe, mini, and micro via telephone modem or null modem cable. Accesses data base and provides electronic mail, electronic shopping, computerized typesetting and teleconferencing. Features split screen mode, pre-selection of multiple files to transmit and simultaneous, bi-directional file transfer.
IBM PC ☐ 48 KB req. ☐ Copies sold: 500 since 1982 ☐ Cost: $150-$325

OMNI COMPUTER SYSTEMS, INC.

☐ Flash-Forward
Integrated call forwarding and referral. Direct-dial to individual departments, 24 hour access without operator assistance, inbound call statistics for market research, sales lead tracking and quality control. Generates reports showing call traffic, end-user demographics and inbound call routing profiles.
IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 6 since 1985 ☐ Cost: $3,500-$70,000

ORIGIN, INC.

☐ Call Tracker
Stores contents of telephone conversations in summary form, and when to follow up. Searches by contact, company, group, class, status, time zone or follow up date. Provides mailings, conversation history and overview reports, and phone books.
IBM PC, XT, AT ☐ 62 KB req. ☐ Copies sold: 100 since 1984 ☐ Cost: $325

QUALITY SOFTWARE, INC.

☐ Call
Sets up parameters for target service, retaining and cataloging information for future reference. Receives from most word processing and computer systems.
IBM PC, XT, PCjr ☐ 64 KB req. ☐ Introduced: 1982 ☐ Cost: $150

SANYO BUSINESS SYSTEMS CORP.

(Computer Division)

☐ Sanycom
Operates in terminal mode and file transfer mode, performs auto-dial and supports personal telephone directory. File save feature stores currently displayed screen data on disk and transmits command sequences. Communicates with any system running MODEM 7. Uploads/downloads ASCII files.
IBM PC ☐ 64 KB req. ☐ Copies sold: 2,500 since 1983 ☐ Cost: $105

SONA SYSTEMS CORP.

☐ Call Monitor
Telephone system monitoring and control. Applicable to government departments, boards and agencies, professional service firms, hospitals, schools and other institutions and businesses with monthly telephone charges in excess of $2,500.
IBM PC ☐ 640 KB req. ☐ Cost: $3,995

SOURCEVIEW SOFTWARE INTERNATIONAL

☐ Source Phone Billing System
Allows independent telephone utilities to be computerized. Presents federally required components related to chart of accounts. Converts tapes of telephone toll charges received on magnetic tape to invoice. Calculates monthly rate, city and excise taxes.
IBM PC ☐ Cost: $1,995

STAR TECHNOLOGIES, INC.

☐ Star*Message
Electronic telephone message system. Utilizes audio and visual signal, prioritizes messages and monitors personnel. Records each call for action taken, deletes it from day's system or forwards it to another user.
IBM XT ☐ 128 KB req. ☐ Copies sold: 700 since 1983 ☐ Cost: $2,000

STOK SOFTWARE, INC.

☐ TeleSys

Provides remote communication with computer from Touch Tone telephone. Includes remote OE, voice message forwarding, home banking, dictation, PBX unattended answering and intelligent automated operator assistance. Handles up to 4 incoming phone lines simultaneously.

IBM PC, XT

SUMMA FOUR

☐ MCX MAXX

Handles call accounting, on-demand reporting, account code tracking, scheduled batch reporting and data base management. Stores over 100,000 call records. Computes call prices using pricing data base. Multi-level password structure.

IBM PC

TEAL COMMUNICATIONS INTERNATIONAL, INC.

☐ Around

Communicates with information services, electronic mail services, mainframes and other PCs. Sends, receives and handles electronic mail. Full-screen editor, directory of frequently-called people/services and notepad for composing/editing messages. Timed reminders and timed routes. Simultaneous operation with communications.

IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1985 ☐ Cost: $190

TELCO RESEARCH CORP.

☐ Basic TOSCA (On-Site Cost Allocation)

SMDR processing with cost allocation. Records one PBX and handles 2,000 stations and 45,000 to 80,000 calls per billing period (XT) and 4,000 stations and 120,000-150,000 calls per billing period (AT). Generates station detail and trial balance reports. Allocates equipment and variable costs.

IBM XT, AT ☐ 384 KB req. ☐ Copies sold: 25 since 1985 ☐ Cost: $4,900-$9,800

☐ Extended TOSCA (On-Site Cost Allocation)

SMDR processing with cost allocation. Records 1 to 15 PBXs and handles 2,000 stations and 45,000 to 80,000 calls per billing period (XT) and 4,000 stations and 120,000 to 150,000 calls per billing period (AT). Generates station detail reports.

IBM XT, AT ☐ 384 KB req. ☐ Copies sold: 550 since 1983 ☐ Cost: $14,500

☐ On-Site Inventory Control

Performs telecom equipment recordkeeping and cost accounting. Tracks details for 2,000 stations. Manages modems, data terminals, PCs, office equipment and furnishings.

IBM PC, XT, AT ☐ 384 KB req. ☐ Copies sold: 25 since 1984 ☐ Cost: $5,500

☐ Traffic Statistics

Generates daily detail, facilities used, station traffic, destination dialed and area code reports. Analyzes long distance telecommunications systems.

IBM XT, AT ☐ 384 KB req. ☐ Copies sold: 450 since 1983 ☐ Cost: $3,000

☐ TRU Data Recorder/Poller

PBX call recording package. Provides error-free capture of call detail data from PBX with SMDR feature. On-line inquiry, monitoring and reporting; automatic alarms and backup capability; flash management reports; and optional single-location cost allocation reports.

IBM XT, AT ☐ 384 KB req. ☐ Copies sold: 900 since 1983 ☐ Cost: $6,000 and up

☐ 1 to 5 Optimizer

Long distance analysis. Designed to optimize telecom systems using WATS and OCC (Other Common Carriers) facilities. Includes ARS/Erlang B route selection, automated retry, automated queuing and 5 WATS band optimization. Optional component of TRU system.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 40 since 1984 ☐ Cost: $1,000

TELECOM MANAGEMENT

☐ ACD Manager

Identifies incoming calls by type such as wrong numbers, credit inquiries and orders. Prints reports on daily basis. Generates user-defined, history, custom, exception or management reports based on captured call data to reflect trends.

IBM PC, XT, AT ☐ 256 KB req.

☐ Inventory

Inventories voice and data telecommunications related equipment and services. Prints selected items or entire inventory file. Reports by station, department, division, summary and location. Provides duplicate validation, history, purchase and lease cost allocation.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $3,000-$6,000

☐ Pollable Memory/TSA

Storage device accommodates 2,000 to 448,000 of call records. Compression techniques utilized to store greater amounts of call records. Status checks provide instant verification of last record polled and remaining storage capacity. Performs error checks to protect against garbled transmission.

IBM PC, XT, AT ☐ 64 KB req. ☐ Cost: $450-$5,000

☐ Stand Alone Call Accounting

Call accounting and billing, station directory, system management, and station message detail recording. Provides call detail reporting. Available for corporate, shared tenant, resale and lodging applications.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $13,000-$15,000

☐ Traffic Engineering

Network optimization, configuration and traffic reporting system. Shows potential traffic availability to WATS, FX, LATA WIDE and OCCs. Gives information necessary for network design and optimization. Provides actual traffic information from current mix of facilities. Could-be reports available.

IBM PC, XT, AT ☐ 256 KB req.

☐ Traffic Planner

Determines correct trunking requirements, grade of service and costs based on actual outgoing traffic. Reports include summary, traffic carried, lost, average and total rate per minute, total cost and what-if projections.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $1,000

☐ Work Order/Problem Tracking

Produces printed work order, vendor order and PO for any type of move, change, add, delete or repair of voice and data communications equipment.

IBM PC, XT, AT ☐ 256 KB req. ☐ Cost: $3,000-$6,000

TELECOM SOFTWARE

☐ Phonbill

Maintains records of phone bills for 24 month period. Displays or prints monthly expense reports.

IBM PC ☐ 128 KB req. ☐ Copies sold: 5 since 1985 ☐ Cost: $200

☐ WATSTEST

Traffic engineering, long distance telephone bill analysis. Compares costs to WATS. Determines WATS bands and number, length and cost of calls. Estimates savings of WATS compared to DDD based on results of each band.

IBM PC ☐ 128 KB req. ☐ Copies sold: 77 since 1983 ☐ Cost: $150

TELECOMMUNICATION SYSTEM TECHNOLOGY, INC.

Tele-Tech Services Division

☐ V and H Coordinate File

Lists area codes, exchanges, city names with V and H coordinates for US and Canada. Call pricing based on mileage calculations. File available on nine track, 1600 bpi magnetic tape or 16 eight inch or 5-1/4 diskettes.

IBM PC ☐ 32 KB req. ☐ Copies sold: 100 since 1982 ☐ Cost: $500

TEXAS INSTRUMENTS

☐ SATPLAN

Designed to support Global Positioning System (GPS). Selects 4 best satellites for each selected date and location. Indicates precise satellite rise/set time, satellite azimuth and elevation, satellite visibility profile and PDOP/NAV recommended mode. Produces graphic or tabular results.

IBM PC ☐ 256 KB req. ☐ Cost: $350

U.S. INTELCO NETWORKS

☐ CBS (Carrier Billing System)

Allows independent telephone company to bill long distance carriers. Meets deregulation requirements. Bills recurring, non-recurring and usage charges for common carrier.

IBM PC ☐ 128 KB req. ☐ Copies sold: 120 since 1984 ☐ Cost: $3,995

VISUAL HORIZONS

☐ Transgraphic

Telecommunications package that transmits PIC files. Sends files in sequence.

IBM PC ☐ Cost: $150

WOLF DATA SERVICES, INC.

☐ Customer Service Information System

Installed equipment inventory and configuration records. Activity in-process records. Detailed service call history. Automatic creation of billing transactions and invoices for AR processing. Costing and posting of inventory issues for repair or installation.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 10 since 1982

XIOX CORP.

☐ Large Business Series

Telephone management for general purpose business applications. Interfaces with equipment to monitor and analyze use. Call pricing, screening for lengthy or expensive calls, financial accounting and traffic analysis.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 22 ☐ Cost: $3,900-$14,000

☐ Phonechek

Manual-entry call accounting for small businesses or professionals with less than $1,000 per month long distance bill. Sorts calls by date, cost, area code, extension and account code.

IBM PC, XT, AT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $75

☐ Pro-Times

Telephone management for attorneys, accountants, architects and consultants who bill expenses to clients. Interfaces with equipment to monitor and analyze use. Posts charges to accounts as calls are made. Pricing, screening for lengthy or expensive calls, financial accounting and traffic analysis.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 18 since 1984 ☐ Cost: $2,875-$7,475

☐ Small Business Series

Supports call accounting. Call pricing, screening for lengthy or expensive calls, financial accounting, traffic analysis and multi-tasking capabilities. Interfaces with telephone equipment to monitor and analyze use.

IBM PC, XT ☐ 256 KB req. ☐ Copies sold: 22 since 1985 ☐ Cost: $875-$2,875

☐ Times I and II

Telephone management for hotels, motels, hospitals and nursing homes. Interfaces with equipment to monitor and analyze use. Includes pricing of guest, patient and administrative calls; screening for lengthy or expensive calls; financial accounting; and traffic analysis.

IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Copies sold: 50 since 1982 ☐ Cost: $2,500-$7,500

XTEND COMMUNICATIONS

☐ CDR PLUS

Processes information provided by PBX in real time. Provides phone cost allocation reports with timing, pricing and ID of called city/state. Monitors employee calls.

IBM PC, XT, AT ☐ 512 KB req. ☐ Copies sold: 120 since 1982 ☐ Cost: $8,400

☐ XTENDED ACD

Reports and tracks Northern Telecom SL-1 and SL-100 systems that have automatic call distributor feature activated. Reports agent groups, queues, positions and trend, and trunk routes.

IBM AT

VIDEOTEX

AT&T

Electronic Photography and Imaging Center

☐ NAPLPS Terminate and Stay Resident Software (PLPTSR)

Develops PC-based programs employing graphics encoded with SRM NAPLPS frames. Displays NAPLPS frames. Used with Truevision Video Display Adapters.

IBM PC ☐ 130 KB req. ☐ Introduced: 1985 ☐ Cost: $5,000

☐ PC NAPLPS Decoder

Decodes SRM NAPLPS and ASCII frames for access to SCEPTRE videotex services. Emulates SCEPTRE terminal including X.25 LAP B sync data communications capability. Used with AT&T Video Display Adapter.

IBM PC, XT, AT ☐ 192 KB req. ☐ Introduced: 1984 ☐ Cost: $150

DATA TRANSLATION, INC.

☐ Videolab

For real-time video digitization and display applications. Provides B&W or color imaging capabilities for applications in industrial testing, inspection and assembly and scientific and medical imaging. Image processing subroutine library for user-defined programs.

IBM PC, XT ☐ 128 KB req. ☐ Introduced: 1984 ☐ Cost: $995

DISC INTERNATIONAL, INC.

☐ VIEWBASE

Permits user to communicate with remote computer via CRT, PC adapted television set, telephone and videotex adapter. Uses logical menu structures and color graphics. Accommodates other terminal devices, peripheral equipment and communication links. Accesses telephone trunk network and local PABX.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 75 ☐ Cost: $3,000

FORMIC VIDEOTEX SYSTEMS

☐ Multidec

Micro-based, multi-user videotex host system. Controls multiple users with tree structure, keyword or direct page access. Handles any protocol. Can be expanded from a single stand-alone unit to a full network of interactive terminals.

IBM PC ☐ 256 KB req. ☐ Introduced: 1983

IBM (INTERNATIONAL BUSINESS MACHINES)

☐ Videotex/PC

IBM no. 6410-985; 6316-967. Allows IBM PC, XT, AT, PCjr to serve as videotex terminal. Sets up communications with host, receives frames for display on color monitor or TV, enters data for transmission to host, saves incoming frames on disk, or views saved copies.

IBM PC, XT, AT, PCjr ☐ 128 KB req. ☐ Cost: $220-$250

☐ VTXGRAF (PC/Videotex Graphic Artist Facility)

Enables IBM PC to create videotex frames (pages of information) combining color graphics and text that appear to end users on videotex terminals.

IBM PC, XT, AT

MBP SOFTWARE AND SYSTEMS TECHNOLOGY, INC.

SEE AD ON PAGE 293

☐ Videotex

Videotex decoder for Antiope, Prestel, CEPT and NAPLPS Videotex standards. CEPT editor and server software capability.

IBM PC

MICROSTAR SOFTWARE, LTD.

☐ Personality + III

Communications for ASCII and NAPLPS data bases. Provides NAPLPS/ASCII terminal with upload/download and slide show. Billboard provided. Supports different graphics cards with hi-res capability. Accesses NAPLPS graphics information or ASCII data bases.

IBM PC, XT, AT, 3270-PC ☐ 256 KB req. ☐ Introduced: 1985 ☐ Cost: $159

MICROTAURE, INC.

☐ Teligraph

Implementation of NAPLPS videotex standard allowing page creation, on-line decoding, graphics editing and slideshow preparation.

IBM PC, XT, AT, PCjr ☐ 256 KB req. ☐ Cost: $399

TAYSON INFORMATION TECHNOLOGY, INC.

☐ ABLE

Color graphic cable TV application system. Creates color graphic frames, schedules sequential displays of frames and sends frames to cable head end for broadcast. Graphics/character generator with frame scheduler.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 5 since 1982 ☐ Cost: $2,000; lease terms available

☐ DIDS (Distributed Information Database System)

Distributed public access information system. Includes PC-based information kiosk local frame storage. Kiosks are updated by dial-up modems or diskette, from central support consisting of networked microcomputers. DIDS supports printer in Kiosk and provides frame statistics.

IBM PC, XT, AT ☐ 256 KB req. ☐ Copies sold: 7 since 1984 ☐ Cost: $15,000 and up

☐ VAST (Videotex Application System)

Videotex DBMS and color graphic frame creation. Creates, telecommunicates, stores and presents frames from local microcomputer. Frames loaded from remote services into VAST structured data base. Multiple presentation parameters and modes.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 65 since 1981 ☐ Cost: $499

☐ VITAL (Videotex Integrated Teaching and Learning)

Authoring system for educational and training companies. Creates modules using graphic frames. Variety of access parameters provide flexibility in setting up training module and question structure. Records alphanumeric responses to questions.

IBM PC, XT, AT ☐ 192 KB req. ☐ Copies sold: 6 since 1984 ☐ Cost: $1,000-$6,000

VIDEODIAL, INC.

☐ Inpro

Videotex production tool for creating informational services. Accelerates production of tree-structures. Once created off-line, final structure sent to mainframe. Inserts keywords on- and off-line.

IBM PC ☐ 256 KB req. ☐ Copies sold: 2 since 1985 ☐ Cost: $24,000-$37,000

VIDEOTEX SYSTEMS, INC.

☐ PC-DISPLAY

One-to-11-user host videotex system. Supports combination of local or remote dial-in Prestel and ASCII terminals at varying baud rates. Features data collection response frames, password security, closed user group security and usage monitoring.

IBM PC ☐ 256 KB req. ☐ Copies sold: 250 since 1984 ☐ Cost: $300

☐ PC-EDITOR

Prestel page creation for use either locally or with remote host. Includes full bulk update protocol for updating multiple pages automatically. Includes frame management, telesoftware loader, and interface to data processing applications.

IBM PC ☐ 128 KB req. ☐ Copies sold: 400 since 1984 ☐ Cost: $400

☐ VIDTERM

Transforms PC into Prestel or ASCII terminal with Prestel protocol emulation, autodialing, autologin, page saving, page printing, command sequences and local editing.

IBM PC, PCjr ☐ 128 KB req. ☐ Copies sold: 600 since 1984 ☐ Cost: $200

WANG LABORATORIES, INC.

☐ PC Viewdata Decoder

Expedites retrieval of information needed by entering frame numbers into directory. Requires industry standard color monitor, Wang Industry Standard Monitor Card and modem if user is going to access remote data bases.

IBM PC

WOLFDATA, INC.

☐ NAPLPS Decoder Software

IBM PC ☐ 128 KB req. ☐ Cost: $200

☐ Prestel Decoder Software

IBM PC ☐ 64 KB req. ☐ Introduced: 1981 ☐ Cost: $150

☐ Prestel Editor Interface

IBM PC ☐ 64 KB req. ☐ Introduced: 1981 ☐ Cost: $1,595

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ALLOY COMPUTER PRODUCTS, INC.
100 Pennsylvania Ave.
Framingham, MA 01701
617-875-6100; TWX: 710-346-0394

ALLSTON GROUP
P.O. Box 547
Wylie, TX 75098
214-442-7205

ALOS MICROGRAPHICS CORP.
239 E. Plains Rd., P.O. Box 407
Walden, NY 12586
914-778-7511; TLX: 131-595

ALPHA DATA, INC.
20750 Marilla St.
Chatsworth, CA 91311
818-882-6500; TWX: 910-494-4914

ALPHA LOGIC BUSINESS SYSTEMS, INC.
4119 N. Union Rd.
Woodstock, IL 60098
815-568-5166; 815-568-6684

ALPHA MERICS CORP.
8031 Remmet Ave.
Canoga Park, CA 91304
818-999-5580; TLX: 182-314

ALPHA MICROSYSTEMS
3501 Sunflower
Santa Ana, CA 92704
714-957-8500

ALPHA OMEGA COMPUTER PRODUCTS, INC.
18612 Ventura Blvd.
Tarzana, CA 91356
818-345-4422; 800-874-0596

ALPHA SOFTWARE CORP.
30 B St.
Burlington, MA 01803
617-229-2924; 800-451-1018; TLX: 466-168

ALPHACOM
(division of Brown Kellogg, Inc.)
2323 S. Bascom Ave.
Campbell, CA 95008
408-279-5577

ALPHANETICS
P.O. Box 339
Forestville, CA 95436
707-887-7237; 800-321-5346

ALPHANUMERIC INTERNATIONAL, INC.
14060 Gannet St., Suite 1-103
Santa Fe Springs, CA 90670
213-921-8689

ALPHASOFT
941 W. Carson, Suite 318
Torrance, CA 90502
213-212-7477

ALPS ELECTRIC (USA), INC.
(subsidiary of Alps Electric Co., Ltd.)
3553 N. First St.
San Jose, CA 95134
408-946-6000; 800-828-2577; 800-257-7872 (CA); 800-858-2577 (CD); TLX: 757-061

ALTEK CORP.
2150 Industrial Pkwy.
Silver Spring, MD 20904
301-622-3906; TLX: 710-825-0422

THE ALTERNATE SOURCE
704 N. Pennsylvania Ave.
Lansing, MI 48906
517-482-8270

ALTERNATIVE DECISION SOFTWARE, INC.
P.O. Box 307
Lancaster, NY 14086
716-684-2423

ALTERTEXT, INC.
210 Lincoln St.
Boston, MA 02111
617-426-0009; 800-992-0057

ALTOS COMPUTER SYSTEMS
2641 Orchard Pkwy.
San Jose, CA 95134
408-946-6700; TLX: 470-642 ALTO UI

ALYWA COMPUTER CORP.
1145 E/F Dominguez St.
Carson, CA 90746
213-604-9706

A & M SOFTWARE
61-43 84th Place
Flushing, NY 11379
718-457-9473

AMCODYNE, INC.
1301 S. Sunset St.
Longmont, CO 80501
303-772-2601; TLX: 384-373 AMCO

AMDAHL COMMUNICATIONS SYSTEMS DIVISION
2200 N. Greenville
Richardson, TX 75081
214-699-9500

AMDEK CORP.
(subsidiary of Wyse Technology Corp.)
2201 Lively Blvd.
Elk Grove Village, IL 60007
312-364-1180; TLX: 280-803

AMERICAN BUSINESS COMPUTER
30500 Northwestern Hwy., Suite 100
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313-855-4520

AMERICAN BUSINESS COMPUTER DEVELOPMENT SYSTEMS, INC.
2489 Rice St., Suite 40
St. Paul, MN 55113
612-482-8584; 800-972-2742

AMERICAN BUSINESS SYSTEMS, INC.
3 Littleton Rd.
Westford, MA 01886
617-692-2600

AMERICAN CADIX, INC.
2200 Lakeshore Blvd., W
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416-259-9694

THE AMERICAN COMMUNICATION ARTS ORGANIZATION
1222 Loring St.
San Diego, CA 92109
619-270-8956

AMERICAN COMPUTER AND ENGINEERS, INC.
11726 San Vincente Blvd.
Los Angeles, CA 90049
213-477-6751

AMERICAN COMPUTER AND PERIPHERAL, INC.
2720 Croddy Way
Santa Ana, CA 92704
714-545-2004; TLX: 371-0523 AMERICAN

AMERICAN COMPUTER GROUP, INC.
Kenmore Station, P.O. Box 68
Boston, MA 02215
617-437-1100; TWX: 710-321-6388

AMERICAN COMPUTER HARDWARE CORP.
2205 S. Wright St.
Santa Ana, CA 92705
714-549-2688; TLX: 330-038

AMERICAN COMPUTER PRODUCTS, INC.
1190-Q Miraloma Way
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408-720-9494; TLX: 371-9368 ACP CI

AMERICAN DATA CABLE, INC.
685 Placerville Dr.
Placerville, CA 95667
916-622-3465

AMERICAN HIGH-TECH INDUSTRIES, INC.
Eleven-One-Eleven Wilcrest Green Dr., Suite 201
Houston, TX 77042
713-952-7332

AMERICAN INFORMATION SYSTEMS, INC.
15 Waln St.
Wellsboro, PA 16901
717-724-1588

AMERICAN INTERNATIONAL COMMUNICATION CORP.
4760 Walnut
Boulder, CO 80301
303-444-6675; 800-821-0528; TWX: 701-852; TLX: 499-0706

AMERICAN MICRO RESEARCH
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AMERICAN MICRO TECHNOLOGY
1322 E. Edinge
Santa Ana, CA 92705
714-972-2945; TWX: 510-600-3265

AMERICAN MITAC CORP.
3385 Viso Court
Santa Clara, CA 95054
408-988-0258; 800-321-8344; TLX: 910-338-2201 MECTEL

AMERICAN MULTIPLEX SYSTEMS
1148 E. Elm Ave.
Fullerton, CA 92631
714-870-5821

AMERICAN PLANNING CORP.
4600 Duke St., Suite 423
Alexandria, VA 22304
703-751-2574; 800-368-2248

AMERICAN POWER CONVERSION CORP.
89 Cambridge St.
Burlington, MA 01803
617-273-1570; 800-343-2507

AMERICAN SMALL BUSINESS COMPUTERS, INC.
118 S. Mill St.
Pryor, OK 74361
918-825-4844

AMERICAN SYSTEM PRODUCTS
P.O. Box 1620
Casselberry, FL 32707
305-774-4070

AMERICAN TELEPROCESSING CORP.
10681 Haddington Dr.
Houston, TX 77043
713-973-1616; TLX: 774-444

AMERICAN VIDEO TELECONFERENCING CORP.
110 Bi County Blvd.
Farmingdale, NY 11735
516-420-8080; 800-641-4461

AMI (AMERICAN MICRONICS, INC.)
17811 Skypark Circle, Suite H
Irvine, CA 92714
714-261-2428

AMKEY, INC.
220 Ballardvale St.
Wilmington, MA 01887
617-658-7800

AMPAK BUSINESS SYSTEMS, INC.
2640 Walnut Ave.
Tustin, CA 92680
714-731-4217; TLX: 325-397 AMPAK TUS

AMQ COMPUTER CORP.
1901 S. Bascom Ave., Suite 340,
Pruneyard Tower I
Campbell, CA 95008
408-559-0781

AMT CORP. (ADVANCED MICRO TECHNOLOGY)
183 Guggins Lane
Boxboro, MA 01719
617-263-3030

ANADEX, INC.
(subsidiary of Printronix, Inc.)
1001 Flynn Rd.
Camarillo, CA 93010
805-987-9660; TWX: 910-494-2761

ANAFAZE, INC.
2825 S. Rodeo Gulch Rd., Suite 6
Soquel, CA 95073
408-479-0415

ANALOG AND DIGITAL PERIPHERALS, INC. (ADPI)
815 Diana Dr.
Troy, OH 45373
513-339-2241; TLX: 810-450-2685 ADPI TROY

ANALOG DESIGN TOOLS
66 Willow Place
Menlo Park, CA 94025-3601
415-328-0780; TLX: 316 646

ANALOG DEVICES, INC.
2 Technology Way, P.O. Box 9106
Norwood, MA 02062
617-329-4700

ANALOG PRECISION, INC.
1620 N. Park Ave.
Tucson, AZ 85719
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ANALOG TECHNOLOGY CORP.
1859 Business Center Dr.
Duarte, CA 91010
818-357-0098; TLX: 371-8950

ANALYTICAL SOFTWARE
10939 McCree Rd.
Dallas, TX 75238
214-340-2564

ANALYTX INTERNATIONAL, INC.
1365 Massachusetts Ave.
Arlington, MA 02174
617-641-0400

ANAWAN COMPUTER SERVICES
19 J Winterberry Lane
Rehoboth, MA 02769
617-252-4537

ANCHOR AUTOMATION, INC.
6913 Valjean Ave.
Van Nuys, CA 91406
818-997-7758; TLX: 298-714 ANCH UR

ANCHOR PAD INTERNATIONAL, INC.
4483 McGrath St., Suite 3
Ventura, CA 93003
805-658-2661; 800-4AN-CHOR

ARTHUR ANDERSEN & CO.
Management Information Consulting Division
33 W. Monroe St.
Chicago, IL 60603
312-580-0033

ANDERSON-BELL CORP.
11479 S. Pine Dr., Suite 412
Parker, CO 80134
303-841-9755; TLX: 499-4230

ANDERSON JACOBSON, INC.
521 Charcot Ave.
San Jose, CA 95131
408-435-8520

ANDYNE COMPUTING LTD.
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Kingston, Ontario, CD K7L 1C7
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ANEX TECHNOLOGY, INC.
151 North Rt. 9W
Congers, NY 10920
914-268-2400; 800-821-4826; TLX: 325-474

ANIMAT/USA
200 Brown Rd., Suite 300
Fremont, CA 94539
415-659-0105

ANNIS-MILLER SYSTEMS, INC.
3300 Henderson Blvd., Suite 202
Tampa, FL 33609
813-873-7288

ANRITSU AMERICA, INC.
15 Thornton Rd.
Oakland, NJ 07436
201-337-1111; 800-255-7234; TLX: 642-141

ANSA SOFTWARE
1301 Shore Way Rd.
Belmont, CA 94002
415-595-4469

ANSCO (AMERICAN NATIONAL SUPPLY CORP.)
1243 West 134th St.
Gardena, CA 90247
213-532-7780; 800-421-1270; 800-821-3308 (CA)

ANSER TECHNOLOGY, INC.
5535 Airport Frwy.
Ft. Worth, TX 76117
817-831-4191

THE ANSWER IN COMPUTERS (TAIC)
111 Country Club Dr.
Chula Vista, CA 92011
619-425-TAIC; TLX: 499-5019 TAIC UI

ANSWER SOFTWARE CORP.
20863 Stevens Creek Blvd.
Cupertino, CA 95014
408-253-7515; TLX: 296-671 ASC UR

ANSWER SYSTEMS
(division of Sterling Software)
21050 Vanowen St., P.O. Box 1452
Canoga Park, CA 91304
818-716-1616; TLX: 472-0343

ANTEX DATA SYSTEMS (ADS)
(division of International Antex, Inc.)
2630 California St.
Mountain View, CA 94040
415-941-7914; TLX: 704-969

ANTOMEX CORP.
1580 Lemoine Ave.
Ft. Lee, NJ 07024
201-947-3277

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914-221-2611

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Danbury, CT 06811
203-794-0396

APOLLO COMPUTER, INC.
330 Billerica Rd.
Chelmsford, MA 01824
617-256-6600; TWX: 710-343-6803

APPARAT, INC.
4401 S. Tamarac Pkwy.
Denver, CO 80237
303-741-1778

APPLICATION EXECUTIVE CORP.
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New York, NY 10012
212-226-6347

APPLICATION TECHNIQUES, INC.
10 Lomar Park Dr., Suite 2
Pepperell, MA 01463
617-433-5201

APPLICATIONS SYSTEMS CORP.
23181 Verdugo Dr., Suite 101, P.O. Box 30770
Laguna Hills, CA 92653
714-951-8171; TWX: 510-600-1506

APPLICATIONS SYSTEMS GROUP, INC.
97 Golden Hill Rd.
Danbury, CT 06811
203-970-9756

APPLICON
(a Schlumberger Co.)
4251 Plymouth Rd., P.O. Box 986
Ann Arbor, MI 48106
313-995-6000; 800-243-8160; TWX: 810-223-6039

APPLIED BUSINESS COMPUTER CO.
1509 N. Cramer Blvd., Suite E
Anaheim, CA 92806
714-666-2604

APPLIED BUSINESS TECHNOLOGY CORP.
365 Broadway, 6th Floor
New York, NY 10013
212-219-8945

APPLIED COLOR SYSTEMS, INC. (ACS)
(subsidiary of Armstrong World Industries)
P.O. Box 5800
Princeton, NJ 08540
609-924-2189; TWX: 510-685-2376

APPLIED COMPUTER PRODUCTS, INC.
1633 Republic Rd.
Huntington Valley, PA 19006
215-322-6500; 800-223-3860; TLX: 756-876

APPLIED COMPUTER RESOURCES, INC.
P.O. Box 7856
Santa Cruz, CA 95061
408-458-1412

APPLIED COMPUTER SERVICES, INC.
P.O. Box 2193
Norwalk, CT 06852
203-846-1684

APPLIED COMPUTER SOLUTIONS, INC.
100 Maple Park Blvd., Suite 116
St. Clair Shores, MI 48081
313-774-2640

APPLIED CREATIVE TECHNOLOGY, INC.
10529 Olympic, Suite 101
Dallas, TX 75220
214-358-4800

APPLIED DATA RESEARCH, INC.
(an Ameritech Co.)
Rt. 206 & Orchard Rd., Suite CN-8
Princeton, NJ 08540-9936
201-874-9000; 1-800-237-9273

APPLIED DATA SYSTEMS, INC.
9811 Mallard Dr., Suite 213
Laurel, MD 20708
301-953-9326

APPLIED DIGITAL COMMUNICATIONS
214 Flynn Ave.
Moorestown, NJ 08057
609-234-3666

APPLIED DIGITAL DATA SYSTEMS, INC. (ADDS)
(subsidiary of NCR Corp.)
100 Marcus Blvd.
Hauppauge, NY 11788
516-231-5400; 800-645-5298; TWX: 510-227-9886

APPLIED I
200 California Ave., Suite 212
Palo Alto, CA 94306
415-325-4800

APPLIED INFORMATION SYSTEMS, INC. (NC)
500 Eastowne Dr., Suite 207
Chapel Hill, NC 27514
919-942-7801; 800-334-5510; TLX: 701-365 APPLIED INFO UD

APPLIED KNOWLEDGE GROUPS, INC.
1622 El Camino Real West
Mountain View, CA 94040
415-965-1300

APPLIED MANAGEMENT CORP.
245 Columbine St., Suite 205
Denver, CO 80206
303-321-6525

APPLIED MANAGEMENT SCIENCES CORP.
721 Clay Ave.
Langhorne, PA 19047
215-757-4011

APPLIED MANAGEMENT SYSTEMS, INC. (MD)
7315 Wisconsin Ave., Suite 601E
Bethesda, MD 20814
301-654-0711

APPLIED MICROS, INC.
550 Julie Rivers Dr., Suite 100
Sugarland, TX 77478
713-240-5555; TLX: 295-901 APMIC UR

APPLIED MICROSYSTEMS, INC.
General Systems Division
P.O. Box 832
Roswell, GA 30077
404-475-0832

APPLIED MIND SYSTEMS, INC.
1219 S. Tamiami Trail
Sarasota, FL 33579
813-952-0447

APPLIED OPERATIONS RESEARCH, INC.
Microcomputer Applications Group
22056 Saticoy St.
Canoga Park, CA 91303
818-888-3336

APPLIED REASONING CORP.
765 Concord Ave.
Cambridge, MA 02138
617-492-0700; TLX: 671-4194

APPLIED RESEARCH AND TECHNOLOGY, INC.
6400 Powers Ferry Rd., Suite 110
Atlanta, GA 30339
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APPLIED SOFTWARE TECH, INC.
430 10th St.
Atlanta, GA 30318
404-892-1339

APPLIED SOFTWARE TECHNOLOGY
1350 Dell Ave., Suite 203
Campbell, CA 95008
408-370-2662

APPLIED TECHNOLOGY VENTURES, INC.
1005 National City Bank Bldg.
Cleveland, OH 44114
216-589-5891

APPLIED VOICE TECHNOLOGY, INC.
2445 140th Ave., NE, Suite 201
Bellevue, WA 98005
206-641-1760

APPLITECH SOFTWARE, INC.
381 Harvard St.
Cambridge, MA 02138
617-497-8268

APPLITEK CORP.
107 Audubon Rd.
Wakefield, MA 01880
617-246-4500

APRICOT, INC.
47173 Benicia St.
Fremont, CA 94538
415-659-8500; TLX: 350-685

APROTEK
1071-A Avenida Acaso
Camarillo, CA 93010
805-987-2454; 800-962-5800; 800-962-3800 (CA); TLX: 510-101-2666 APROTEK

APSTEK
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Dallas, TX 75229
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APTECH SYSTEMS, INC.
P.O. Box 6487
Kent, WA 98064
206-631-6679

ARBY CORP.
Information Processing Systems
1617A Mass Ave.
Cambridge, MA 02138
617-864-5058

ARC DATA SYSTEMS, INC.
1824-D Fourth St.
Berkeley, CA 94710
415-644-1554; TLX: 499-3463 ARCI UI

ARCHITECTURAL COMPUTER SOFTWARE
P.O. Box 4811
Santa Barbara, CA 93140
805-962-4962

ARCHIVE CORP.
1650 Sunflower Ave.
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714-641-0279; TLX: 472-2063

AREA NETWORK PRODUCTS, INC.
9929 Hibert St., Suite F
San Diego, CA 92131
619-566-3800

ARGOS, INC.
1485 W. Shaw Ave.
Fresno, CA 93711
209-227-1000

ARIEL COMPUTER CORP.
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ARIEL CORP.
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ARISTO GRAPHIC CORP.
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617-371-1243

ARK ELECTRONIC PRODUCTS, INC.
1500 W. Nasa Blvd.
Melbourne, FL 32901
305-724-5260; 1-800-228-0914; TLX: 566-537

ARMOR SYSTEMS, INC.
324 N. Orlando Ave.
Maitland, FL 32751
305-629-0753

ARNET CORP.
476 Woodycrest Ave.
Nashville, TN 37210
615-254-0646; TLX: 332-762

ARRIGONI TECHNOLOGY, INC.
712 E. Evelyn Ave.
Sunnyvale, CA 94086
408-720-8656

ARRIX LOGIC SYSTEMS, INC. (ALSI)
4002 Sheppard Ave., E, Suite 514
Agincourt, Ontario, CD M1S 1S6
416-292-6425; 1-800-268-3599; TLX: 06-986-766 TOR

ARTEK CORP.
100 Seaview Dr.
Secaucus, NJ 07094
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Westside Station, P.O. Box 100
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617-752-5690; TLX: 940-103

ARTELLIGENCE, INC.
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ARTRONICS, INC.
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201-756-6868; TLX: 757-214

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617-482-8248

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Santa Cruz, CA 95062
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ASHER ENGINEERING CORP.
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ASHER TECHNOLOGIES, INC.
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404-993-4590; 800-334-9339

ALLEN ASHLEY
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818-793-5748

ASHTON-TATE
20101 Hamilton Ave.
Torrance, CA 90502-1319
213-329-8000; TLX: 669-984 ASHTATE LSA

AST RESEARCH, INC.
2121 Alton Ave.
Irvine, CA 92714
714-553-0340; TLX: 753-699 ASTRUR

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ATLANTIC COMPUTER PRODUCTS, INC.
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ATLANTIC RESEARCH CORP.
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Inwood, NY 11696
516-239-1854

ATON INTERNATIONAL, INC.
1765 Scott Blvd., Suite 119
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ATRONICS INTERNATIONAL, INC.
491 Valley Way
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2002 Wellesley Blvd.
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3241 118th, SE
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408-241-4550; TLX: 49-44-71 AUSDATA

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AUTO TELL SERVICES, INC.
600 Clark Ave.
King of Prussia, PA 19406
215-768-0200

AUTO-TROL TECHNOLOGY CORP.
12500 N. Washington St., P.O. Box 33815
Denver, CO 80233
303-452-4919; 800-525-8741; TLX: 432-2024 ATHQ UI

AUTOCONTROL, INC.
11400 Dorsett Rd.
St. Louis, MO 63043
314-739-0055

AUTODESK, INC.
2320 Marinship Way
Sausalito, CA 94965
415-332-2344; 800-443-0100 TLX: 756-521 AUTOCAD UD

AUTOGRAPHIX, INC.
100 Fifth Ave.
Waltham, MA 02154
617-890-8558

AUTOMATA DESIGN ASSOCIATES
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Dresher, PA 19025
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AUTOMATE COMPUTER SOFTWARE
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San Antonio, TX 78229
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AUTOMATED INSURANCE RESOURCE SYSTEMS, INC. (AIRS)
1250 E. Diehl Rd., Suite 201
Naperville, IL 60540
312-369-2121

AUTOMATED OFFICE SYSTEMS
4160 Club Dr.
Atlanta, GA 30319
404-237-9420

AUTOMATED TECHNOLOGY, INC.
25G Stoney Run
Maple Shade, NJ 08052

AUTOMATION DESIGN, INC.
350 N. Clark, Suite 650
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AVANT-GARDE COMPUTING, INC.
8000 Commerce Pkwy.
Mt. Laurel, NJ 08054-2227
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AVANT INDUSTRIES, INC.
9926 Pioneer Blvd., Suite 103
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213-942-1277; 800-826-3238; TLX: 371-6190 AVANT

AVATAR TECHNOLOGIES, INC.
99 South St.
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617-435-6872; TWX: 710-390-0375

AVCOM, INC.
P.O. Box 29153
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AVOCET SYSTEMS, INC.
120 Union St., P.O. Box 490
Rockport, ME 04856
207-236-9055; 800-448-8500; TLX: 467-210 AVOCET CI

AWARD SOFTWARE, INC.
236 N. Santa Cruz Ave.
Los Gatos, CA 95030
408-395-2773

AWARECO
38401 Hwy. 1, S, P.O. Box 695
Gualala, CA 95445
707-884-4019; 800-358-9120; 800-862-4948 (CA)

AWESOME TECHNOLOGY, INC.
177 Webster St., Suite A-416
Monterey, CA 93940
408-646-1384

AXIOM CORP.
1014 Griswold Ave.
San Fernando, CA 91340
818-365-9521; TLX: 910-496-1746

AXONIX CORP.
417 Wakara Way
Salt Lake City, UT 84108
801-582-9271

AYDIN CONTROLS
(division of Aydin Corp.)
414 Commerce Dr.
Ft. Washington, PA 19034
215-542-7800, Ext. 251; TWX: 510-661-0518

AZTEK, INC.
17 Thomas
Irvine, CA 92718
714-770-8406

B-KOMP, INC.
1801 Royal Lane, Suite 100
Dallas, TX 75229
214-869-4141

BACKUS DATA SYSTEMS, INC.
(subsidiary of Astronautics Corp. of America)
1440 Koll Circle, Suite 110
San Jose, CA 95112
408-279-8711

BAILEY CONTROLS CO.
(division of the Babcock & Wilcox Co.)
29801 Euclid Ave.
Wickliffe, OH 44092
216-585-8500

BANNER BLUE SOFTWARE, INC.
P.O. Box 7865
Fremont, CA 94537
415-794-6850

BANTA SOFTWARE
8088 Highwood Way
Orangevale, CA 95662
916-722-4895

BANYAN SYSTEMS, INC.
135 Flanders Rd.
Westboro, MA 01581
617-366-6681

BAR CODE APPLICATIONS, INC.
240 H St., Suite 113
Blaine, WA 98225
604-926-7222

BAR/CODE, INC.
1237 Executive Dr., E
Richardson, TX 75081
214-231-2412; 1-800-527-4719

BARBER-COLEMAN CO.
1354 Clifford Ave., P.O. Box 2940
Loves Park, IL 61132
815-877-0241; TLX: 257-327

BARR SYSTEMS, INC.
2830 Northwest 41 St., Bldg. M
Gainesville, FL 32606
904-371-3050; 800-BAR-RSYS

BARRINGTON SYSTEMS, INC.
150 E. Sample Rd.
Pompano Beach, FL 33064
305-785-4555

BASIC BUSINESS SOFTWARE, INC.
P.O. Box 26311
Las Vegas, NV 89126
702-876-9493

BASIC TIME
3350 Scott Blvd., Dept. S, Bldg. 52
Santa Clara, CA 95054
800-323-8437

BASIS, INC. (NM)
5700 Harper Dr., NE, Suite 290
Albuquerque, NM 87109
505-821-4407

BATTERIES INCLUDED
30 Mural St.
Richmond Hill, Ontario, CD L4B 1B5
416-881-9941

BBN SOFTWARE PRODUCTS CORP.
10 Fawcett St.
Cambridge, MA 02238
617-864-1780; 1-800-251-1717; TLX: 921-470

BCH EQUIPMENT CORP.
6950 Bryan Dairy Rd.
Largo, FL 33543
813-541-6404; TWX: 510-601-2373

BCR ENTERPRISES, INC.
950 York Rd.
Hinsdale, IL 60521
312-986-1432

BCS DATA SYSTEMS, INC.
3600 S. Lakeside Dr.
Oklahoma City, OK 73179
405-681-5300

BDS CORP.
800 Maude Ave.
Mountain View, CA 94043
415-964-2115; TLX: 278-722

JOHN BEALL & CO., INC.
9103 3rd Ave.
North Bergen, NJ 07047-5299
201-854-3562; TLX: 710-992-8809

BEAMAN PORTER, INC.
417 Halstead Ave.
Harrison, NY 10528
914-835-3156; 914-835-3010

BECTERM, INC.
12 Trans-Canada Quest
Levis, Quebec, CD G6V 4Z2
418-835-1551

BEDFORD RESEARCH
4 DeAngelo Dr.
Bedford, MA 01730
617-275-7246

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1142 Mark Ave.
Carpinteria, CA 93013
805-684-8311

BELANGER RESEARCH ASSOCIATES
541 West 6th St.
Azusa, CA 91702
818-969-4112

BELL & HOWELL CO.
Information Services Division
2231 Howard St.
Evanston, IL 60202
312-570-4600

BELL & HOWELL CO.
Quintar Division
411 Amapola St.
Torrance, CA 90501
213-320-5700; TWX: 910-349-6960

BELL & HOWELL SERVICE CO.
6800 McCormick Rd.
Chicago, IL 60645
312-675-7600; 800-323-7646

BELL TECHNOLOGIES
44870 Osgood Rd.
Fremont, CA 94539
415-659-9097

BENDATA MANAGEMENT SYSTEMS, INC.
4144 N. Central Expwy., Amberton Tower, Suite 960
Dallas, TX 75204
214-823-2784

BENEDAT SYSTEMS GROUP
(division of Benefit Management Corp.)
One S. Pinckney St.
Madison, WI 53703
608-256-2797

BENTLEY SYSTEMS, INC.
180 Gordon Dr.
Lionville, PA 19353
215-524-9800

BENTLY NEVADA CORP.
P.O. Box 157
Minden, NV 89423
702-782-3611; TLX: 354-437

BENTON, SCHNEIDER & ASSOCIATES, INC.
100 Park Plaza
Naperville, IL 60540
312-357-3131

BERSTIS INTERNATIONAL
P.O. Box 441
Millwood, NY 10546-0441
914-271-5855

BESELER CORP.
8 Fernwood Rd.
Florham Park, NJ 07932-1994
201-822-1000; TLX: 219-485

BEST POWER TECHNOLOGY, INC.
P.O. Box 280
Necedah, WI 54646
608-565-7200; 800-356-5794, Ext. 244; TLX: 701-934

BETA TECH, INC.
16005 Sturgeon
Roseville, MI 48066
313-772-4612

BETATOOL SYSTEMS
8962 E. Hampden Ave., Suite 179
Denver, CO 80231
303-793-0145

BFA SALES
(division of Aquila Technologies Group, Inc.)
1704 Moon, NE
Albuquerque, NM 87112
505-292-1212; TLX: 910-989-1157

BI-TECH ENTERPRISES, INC.
10 Carlough Rd.
Bohemia, NY 11716
516-567-8155; TLX: 499-3713 BITECH

BIG TREES SOFTWARE CORP.
1120 E. Hillsdale, Suite D105
Foster City, CA 94404
209-795-5104

BIK CUSTOM SYSTEMS
3011 Broadway
Boulder, CO 80302
303-441-9221

BINARY ENGINEERING ASSOCIATES, INC.
1072 Main St., P.O. Box 528
Holden, MA 01520
617-829-4362; 617-829-4361

THE BINARY WORKSHOP
44 E. Main St., Suite 202
Champaign, IL 61820
217-359-3400; 800-255-2255, Ext. 3400

BIOCCA ENGINEERING
4591 Lambert Dr.
Santa Rosa, CA 95401
707-545-4419

BIRCHEM COMPUTER PRODUCTS
4813 Cameron Ranch Dr.
Sacramento, CA 95841
916-489-7181

BIT SOFTWARE, INC.
1048 Nicklaus Ave.
Milpitas, CA 95035
408-262-1054

BIT 3 COMPUTER CORP.
8120 Penn Ave., S
Minneapolis, MN 55431-1393
612-881-6955; TLX: 499-7016

BIZCOMP CORP.
532 Mercury Dr.
Sunnyvale, CA 94086
408-733-7800

DAVID R. BLACK & ASSOCIATES, INC.
P.O. Box 44146
Pittsburgh, PA 15205
412-276-3006; 412-787-5100

BLACK BOX CORP.
Mayview Rd. at Park Dr., P.O. Box 12800
Pittsburgh, PA 15241
412-746-5500; TWX: 510-697-3125

BLAISE COMPUTING, INC.
2560 Ninth St., Suite 316
Berkeley, CA 94710
415-540-5441; 800-227-8087

BLAST/COMMUNICATIONS RESEARCH GROUP
8939 Jefferson Hwy.
Baton Rouge, LA 70809
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BLOC DEVELOPMENT CORP.
1301 Dade Blvd.
Miami Beach, FL 33139
305-531-5486; 800-231-1149

BLT BUSINESS SYSTEMS, INC.
1902 D Central Dr.
Bedford, TX 76021
817-267-4196

BLUE CHIP ELECTRONICS, INC.
2 W. Alameda Dr.
Tempe, AZ 85282
602-829-7217; TLX: 755-430

BLYTH SOFTWARE, INC.
2929 Campus Dr., Suite 425
San Mateo, CA 94403
415-571-0222

BMDP STATISTICAL SOFTWARE, INC.
1440 Sepulveda Blvd.
Los Angeles, CA 90025
213-479-7799; TLX: 497-2934 BMDP UI

BMS COMPUTER, INC.
375 N. Wiget, Suite 210, P.O. Box 3086
Walnut Creek, CA 94598
415-938-2620; TLX: 469-516

BNW, INC.
17419 Farley Rd.
Los Gatos, CA 95030
408-395-7171; TLX: 797-940 BNW INC

BOCA RESEARCH, INC.
6401 Congress Ave.
Boca Raton, FL 33431
305-997-6227

BONDWELL, INC.
3300 Seldon Court, Suite 10
Fremont, CA 94539
415-490-4300; TLX: 650-241-4841

BORLAND INTERNATIONAL, INC.
4585 Scotts Valley Dr.
Scotts Valley, CA 95066
408-438-8400; TLX: 172-373

BOS NATIONAL, INC.
2607 Walnut Hill Lane, Suite 200
Dallas, TX 75229
214-956-7722; TLX: 494-2796 BOSNAT

BOSS SYSTEMS, INC.
942A Sherwood Ave.
Coquitlam, BC, CD V3K 1A9
604-522-0661

THE BOSTON SOFTWARE WORKS
120 Fulton St.
Boston, MA 02109
617-367-6846

BOURBAKI, INC.
615 W. Hays, P.O. Box 2867
Boise, ID 83701
208-342-5849

BPI SYSTEMS, INC.
3001 Bee Cave Rd.
Austin, TX 78746
1-800-531-5252

BRACEWELL ENGINEERING, INC.
6200 Harwood Ave.
Oakland, CA 94618
415-547-8205

BRADY OFFICE MACHINE SECURITY, INC.
11056 S. Bell Ave.
Chicago, IL 60643
312-779-8349; 312-779-9712

BRAEGEN CORP.
525 Los Coches St.
Milpitas, CA 95035
408-945-1900; TLX: 910-338-7332

BRAEMAR CORP.
11400 Rupp Dr.
Burnsville, MN 55337
612-890-5135; 800-328-2719; TLX: 882-169

BREAKTHROUGH SOFTWARE CORP.
505 San Marin Dr.
Novato, CA 94947
415-898-1919; TLX: 323-909 (BREAK THRU)

BRIDGE COMMUNICATIONS, INC.
2081 Stierlin Rd.
Mountain View, CA 94043
415-969-4400; TLX: 176-544

BRIDGE COMPUTER CO.
(division of Sea Data Corp.)
One Bridge St.
Newton, MA 02158
617-244-8190; TLX: 951-107

THE BRIDGE, INC.
199 California Dr.
Millbrae, CA 94030
415-697-2730

BRIGHTBILL-ROBERTS/THE MARKETING CHANNEL AND CO., LTD.
120 E. Washington St., Suite 421
Syracuse, NY 13202
315-474-3400; TLX: 759-986

BRILLIG DATA SYSTEMS, INC.
1144 Oak St.
San Francisco, CA 94117
415-552-2001; TLX: 466-229 BRILLIG CI

BRISTOL BABCOCK, INC.
(subsidiary of Babcock International, Inc.)
40 Bristol St.
Waterbury, CT 06708
203-575-3000; TLX: 962-417

BRITRONICS, INC.
14730 E. Firestone Blvd., Suite 302
La Mirada, CA 90638
714-521-1262

BRITTON LEE, INC.
14600 Winchester Blvd.
Los Gatos, CA 95030
408-378-7000; TLX: 172-585

BROAD COM, INC.
565 Fifth Ave., Suite 515
New York, NY 10017
212-661-4220

BRONSON ELECTRONICS CORP.
(division of Kurz & Root Corp.)
12700 Nicollet Ave., S
Burnsville, MN 55337
612-894-6466

BROOKS MARKETING CORP.
3569 Bristol Pike, Bldg. 2, Suite 102
Bensalem, PA 19020
215-244-0264; 800-523-1551

BROOKS SCIENTIFIC, INC.
55 Wheeler St.
Cambridge, MA 02138
617-491-9220

BROTHER INTERNATIONAL CORP.
Information Systems & Peripheral Division
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Piscataway, NJ 08854
201-981-0300

BROWN BAG SOFTWARE
(division of Software Resource Group)
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Campbell, CA 95008
408-559-4545

BROWN & CO., INC.
P.O. Box 2443
South Hamilton, MA 01982
617-468-7464

BRUBAKER SOFTWARE
116 W. Main St.
Delphi, IN 46923
317-564-2584

BSC COMPUTER SYSTEMS, INC.
1818 S. Roswell Rd., P.O. Box 9399
Marietta, GA 30067
404-977-0842

BST CONSULTANTS, INC.
6110 Gunn Hwy., P.O. Box 23425
Tampa, FL 33623
813-961-3902

BUILDING ENGINEERS, INC.
3355 W. Alabama, Suite 575
Houston, TX 77098
713-623-6490

BULL PERIPHERAL CORP.
766 San Aleso Ave.
Sunnyvale, CA 94086
408-745-0855; TLX: 677-0005

BURROUGHS CORP.
One Burroughs Place
Detroit, MI 48232
313-972-7000

BURTON SYSTEMS SOFTWARE
P.O. Box 4156
Cary, NC 27511-4156
919-469-3068

BUSINESS-PRO
P.O. Box 44075
Phoenix, AZ 85064
602-996-6547; 1-800-821-1989, Ext. 924

BUSINESS & PROFESSIONAL SOFTWARE, INC.
143 Binney St.
Cambridge, MA 02142
617-491-3377; 800-DIAL-BPS; TLX: 592-889

BUSINESS SYSTEMS DESIGN, INC.
1205 Wall St.
Oconomowoc, WI 53066
414-569-9801

BUSINESS SYSTEMS INTERNATIONAL, INC.
20942 Osborne St.
Canoga Park, CA 91304
818-998-7227; TLX: 510-100-4239

BUSINESS SYSTEMS MARKETING, INC.
6110 Executive Bldg., Suite 510
Rockville, MD 20852
301-468-5866

BUSINESS TOOLS, INC.
4038-B 128th Ave., SE, Suite 266
Bellevue, WA 98006
206-644-2015; 800-648-6258

BUTTONWARE, INC.
P.O. Box 5786
Bellevue, WA 98006
206-454-0479; 1-800-JBUTTON

BUZZWORDS INTERNATIONAL, INC.
1524 Good Hope St.
Cape Girardeau, MO 63701
314-335-3853

BV ENGINEERING
2200 Business Way, Suite 207
Riverside, CA 92501
714-781-0252

BYAD, INC.
85 W. Algonquin Rd., Suite 400
Arlington Heights, IL 60005
312-228-3400

BYTCOM, INC.
2169 Francisco Blvd., Unit H
San Rafael, CA 94901
415-485-0700; 800-227-3254

BYTEC CORP.
8 Colonade Rd.
Ottawa, Ontario, CD K2E 7M6
613-226-7255; TLX: 053-3358

BYTEL CORP.
Software Development Division
1029D Solano Ave.
Berkeley, CA 94706
415-527-1157; 800-541-3366 (CA); 800-631-2229; TLX: 176-609 BYTEL

C. ITOH DIGITAL PRODUCTS, INC.
19750 S. Vermont St., Suite 220
Torrance, CA 90502
213-327-2110; 800-423-0300

C. ITOH ELECTRONICS, INC.
5301 Beethoven St.
Los Angeles, CA 90066
213-306-6700, Ext. 220; TLX: WU 652-451

C SOURCE, INC.
12801 Frost Rd.
Kansas City, MO 64138
816-353-8808

C-SQUARED B-SQUARED SOFTWARE DESIGN, INC.
763 27th Ave.
San Francisco, CA 94121
415-751-1337; 800-621-0851, Ext. 330

C WARE CORP.
P.O. Box C
Sunnyvale, CA 94087
408-720-9696; TLX: 358-185 C WARE SNVLE

C. ABACI, INC.
208 Saint Mary's St.
Raleigh, NC 27605
919-832-4847

CACHE SYSTEMS, INC.
44277 Arapaho
Freemont, CA 94539
415-490-2481

CACTUS COMPUTERS, INC.
60 Westminster Rd.
Great Neck, NY 10301
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THE CACTUSPLOT CO.
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Tempe, AZ 85281
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CAD, INC.
Lamplighter Plaza
Kulpsville, PA 19443
215-362-1888

CADAM, INC.
1935 N. Buena Vista St.
Burbank, CA 91504
818-841-9470; TLX: 672-08

CADGRAPH SYSTEM, INC.
P.O. Box 638
Fremont, CA 94536
415-792-4344

CADNETIX CORP.
5757 Central Ave.
Boulder, CO 80301
303-444-8075

CADPLUS PRODUCTS CO.
510 2nd St., NW, Suite 204
Albuquerque, NM 87102
505-242-1332

CADRE TECHNOLOGIES, INC.
222 Richmond St., Suite 301
Providence, RI 02903
401-351-5950

CADTRAK CORP.
823 Kaifer Rd.
Sunnyvale, CA 94086
408-730-2591

THE CADWARE GROUP, LTD.
869 Whalley Ave.
New Haven, CT 06515
203-387-1853

CAERE CORP.
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Los Gatos, CA 95030
408-395-7000; TWX: 910-597-5391

CAETEC SYSTEMS, INC.
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404-395-7844; TLX: 269-031

CAINE, FARBER & GORDON
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Pasadena, CA 91106
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CAL-ABCO
Legend Peripheral Products Division
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CALCOMP
(subsidiary of Sanders Associates, Inc.)
2411 W. La Palma Ave., P.O. Box 3250
Anaheim, CA 92801
714-821-2000; TWX: 910-591-1154

CALCOMP
Personal Systems Unit
200 Hacienda Ave.
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408-866-6272; 800-CALCOMP; TLX: 188-746

CALDWELL COMPUTER ENTERPRISES
484 Lake Park Ave., Suite 201
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CALIDAD ELECTRONICS, INC.
1101 West Hwy. 83
Pharr, TX 78577
512-781-6513

CALIFORNIA COMPUTER SYSTEMS
2036 Concourse Dr.
San Jose, CA 94089
408-945-0500; TLX: 184-817 MSG SNDR

CALIFORNIA INSTRUMENTS
(division of Amstar Technical Products Co., Inc.)
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CALIFORNIA INTELLIGENCE
912 Powell St., Suite 8
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415-391-4846

CALIFORNIA MICRO COMPUTER
9323 Warbler Ave.
Fountain Valley, CA 92708
714-964-9301

CALIFORNIA NETWORK SYSTEMS
372 Turquoise St.
Milpitas, CA 95035
408-943-9280

CALIFORNIA SCIENTIFIC SOFTWARE
25642 Hazelnut
El Toro, CA 92630
714-581-7654

CALIFORNIA SOFTWARE PRODUCTS, INC.
525 Cabrillo Park Dr., Suite 300
Santa Ana, CA 92701
714-973-0440; TLX: 685-645

CALMEX, INC.
1321 Virginia Ave.
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818-338-8001; TLX: 292-792 CALMEX

CAMAX SYSTEMS, INC.
7225 Ohms Lane
Minneapolis, MN 55435
612-831-0604

CAMBRIAN CONSULTANTS, INC.
23930 Craftsman Rd.
Calabasas, CA 91302
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CAMBRIDGE COMPUTER CORP.
80 Mt. Sanford Rd.
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CAMBRIDGE COMPUTER GRAPHICS
6201 Ascot Dr.
Oakland, CA 94611
415-530-4148; TLX: 797-031

CAMBRIDGE GRAPHIC SYSTEMS, INC.
1321-K Virginia Ave.
Baldwin Park, CA 91706
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CANAAN COMPUTER CORP.
39 Lindeman Dr.
Trumbull, CT 06611
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CANDELA, INC.
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408-738-3800

CANNED KNOWLEDGE CORP.
Rt. 1, P.O. Box 37
Pineville, MO 64856
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CANON U.S.A., INC.
One Canon Plaza
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516-488-6700

CAP GEMINI SOFTWARE PRODUCTS, INC.
(division of CAP Gemini Sogeti)
2350 Valley View
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CAPITAL EQUIPMENT CORP.
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CAPITOL CIRCUITS CORP.
Printer Products Division
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Boston, MA 02134
617-254-1200; TLX: 951-589

CAPITOL COMPUTER CENTER
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CAPPCOMM SOFTWARE, INC.
26 Journal Sq., Suite 1003
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CARINT, LTD.
957-R Industrial Rd.
San Carlos, CA 94070
415-595-4333; TLX: 756-224
CARINT RWC

CAROLINA ENGINEERING
LABORATORIES
818 Tyvola Rd., Suite 109
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CARR LANE
MANUFACTURING CO.
4200 Carr Lane Court, P.O. Box
13149
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CARROLL TOUCH
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CARTERFONE
COMMUNICATIONS CORP.
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1341 W. Mockingbird, Suite 1100W
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ANALYSIS)
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16842 Von Karman Ave.
Irvine, CA 92714
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CASE COMMUNICATIONS, INC.
2120 Industrial Pkwy.
Silver Spring, MD 20904-1999
301-622-2121; 301-381-2300; TLX:
89-8347

CASE TECHNOLOGY, INC.
633 Menlo Ave.
Menlo Park, CA 94025
415-322-4057

CASHER ASSOCIATES, INC.
1371 Beacon St.
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CATALYTIX CORP.
55 Wheeler St.
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617-497-2160; TWX: 710-320-1382
ABT CAM

CATAMOUNT CORP.
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CATRONIX CORP.
3272 Browns Mill Rd., SE
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CAUZIN SYSTEMS, INC.
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Ramsey, NJ 07446
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SOFTWARE CORP.
14900 Ventura Blvd., Suite 330
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CDI SYSTEMS, INC.
2803 Butterfield Rd.
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312-325-2430

CDS COMPUTING, INC.
150 River Rd., Bldg. B
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20 S. Santa Cruz Ave., Suite 102
Los Gatos, CA 95030
408-354-8841; TLX: 287-561
MLBXUR

CELESTIAL SOFTWARE, INC.
125 University Ave.
Berkeley, CA 94710
415-420-0300; TLX: 556-459

CELTIC TECHNOLOGY, INC.
21634 Lassen St.
Chatsworth, CA 91311
818-407-1261; TLX: 697-2444

CENTAURUS SOFTWARE, INC.
4425 Cass St., Suite A
San Diego, CA 92109
619-270-4552

CENTRAL POINT SOFTWARE
9700 S.W. Capitol Hwy., Suite 100
Portland, OR 97219
503-244-5782

CENTRAM SYSTEMS WEST, INC.
2372 Ellsworth Ave.
Berkeley, CA 94704
415-644-8244

CENTRONICS DATA
COMPUTER CORP.
One Wall St.
Hudson, NH 03051
603-883-0111; TLX: 943-404;
TWX: 710-228-6505

CENTURY ANALYSIS, INC. (CAI)
114 Center Ave.
Pacheco, CA 94553
415-680-7800; TWX: 910-481-3011

CENTURY SOFTWARE
9558 S. Pinedale
Salt Lake City, UT 84092
801-943-8386

CERMETEK
MICROELECTRONICS, INC.
1308 Borregas Ave.
Sunnyvale, CA 94088
408-752-5000; 800-862-6271; TWX:
910-379-6931

CERTIFLEX SYSTEMS
2290 Springlake
Dallas, TX 75234
214-484-7676; 800-237-8435

CGRS MICROTECH, INC.
P.O. Box 102
Langhorne, PA 19047
215-757-0284

CH PRODUCTS
1225 Stone Dr.
San Marcos, CA 92069
619-744-8546

CHALCEDONY SOFTWARE
5580 La Jolla Blvd., Suite 126
La Jolla, CA 92037
619-483-8513

CHALLENGER COMPUTER, INC.
122 South Rd.
Bedford, MA 01730
617-275-3517

CHAMPAIGN SYSTEMS, INC.
2518 Brett Dr.
Champaign, IL 61821
217-359-9013

CHAMPION BUSINESS SYSTEMS
17301 W. Colfax Ave., Suite 250
Golden, CO 80401
303-278-8666; 800-243-2626

CHANCELLOR COMPUTER
CORP.
1101 San Antonio Rd.
Mountain View, CA 94043
415-969-5000; 800-222-2660

CHANCELLOR CORP.
Federal Reserve Plaza
Boston, MA 02218
617-723-3500

CHANG LABORATORIES, INC.
5300 Stevens Creek Blvd.
San Jose, CA 95129-1088
408-246-8020; 800-972-8800; 800-
831-8080 (CA); TLX: 296-653 RCA

CHANNEL SYSTEMS
INTERNATIONAL, INC.
93 La Patera Lane
Santa Barbara, CA 93117
805-964-8554; TLX: 710-363

CHANNELMARK
2929 Campus Dr., Suite 300
San Mateo, CA 94403
415-345-5900

CHARANDON COMPUTER
SYSTEMS, INC.
1600 Laperriere Ave.
Ottawa, Ontario, CD K1Z 8P5
613-729-3003

CHARLES RIVER
DEVELOPMENT
483 Beacon St.
Boston, MA 02115
617-267-2742

CHARTERHOUSE SOFTWARE
CORP.
31324 Via Colinas, Suite 107
Westlake Village, CA 91364-3919
818-991-5077

CHARTPAK
(subsidiary of Times Mirror Co.)
One River Rd.
Leeds, MA 01053
413-584-5446

CHASE ECONOMETRICS
(subsidiary of Chase Manhattan
Bank)
150 Monument Rd.
Bala Cynwyd, PA 19004-1780
215-667-6000; TLX: 831-609

CHASE TECHNOLOGIES, INC.
High Performance Product Group
375 Sylvan Ave.
Englewood Cliffs, NJ 07632
201-894-5544

CHATTERBOX VOICE LEARNING SYSTEMS
29 Elk Ridge Lane
Boulder, CO 80302
303-444-4654; 800-531-5314; 800-292-5619 (TX)

CHEETAH INTERNATIONAL, INC.
107 Community Blvd., Suite 5
Longview, TX 75606
214-757-3001; TWX: 510-600-4578 CHEETAH

CHEMPRO DATA SCIENCES CORP.
507 Southampton Rd.
Westfield, MA 01085
413-562-2353

CHEMSHARE CORP.
3000 Post Oak Blvd.
Houston, TX 77056
713-627-8945; TWX: 910-881-2793

CHESAPEAKE DATA SYSTEMS CORP.
8310 Guilford Rd.
Columbia, MD 21046
301-290-6440; TWX: 650-263-9653 MCI

CHI/COR INFORMATION MANAGEMENT, INC.
10 S. Riverside Plaza, Suite 1550
Chicago, IL 60606
312-454-9670

CHI CORP.
26055 Emery Rd.
Cleveland, OH 44128
216-831-2622; TLX: 53-5737 WUTCO

CHINON AMERICA, INC.
Information Equipment Division
6374 Arizona Circle
Los Angeles, CA 90045
213-216-7611

M.I.B. CHOCK
1048 24th St.
Santa Monica, CA 90403
213-828-4788

CHORUS DATA SYSTEMS
6 Continental Blvd., P.O. Box 370
Merrimack, NH 03054
603-424-2900; 1-800-624-6787

CHRISLIN INDUSTRIES, INC.
Computer Products Division
31352 Via Colinas
Westlake Village, CA 91362
818-991-2254; TWX: 910-494-1253

CIE SYSTEMS, INC.
(subsidiary of C. Itoh Electronics, Inc.)
2515 McCabe Way
Irvine, CA 92713
714-660-1800, Ext. 2320

CIE TERMINALS
2505 McCabe Way
Irvine, CA 92713-6272
714-660-1421

CIMCO (COMPUTER INTEGRATED MANUFACTURING CO.)
106 Decker Court, Suite 300
Irving, TX 75062
214-255-3124

CINCOM SYSTEMS, INC.
2300 Montana Ave.
Cincinnati, OH 45211
513-662-2300, Ext. 2082; 1-800-543-3010; TWX: 810-461-2732

CIPHER DATA PRODUCTS, INC.
10101 Old Grove Rd., P.O. Box 85170
San Diego, CA 92138
619-578-9100; 800-4-CIPHER; TWX: 910-335-1251

CIPHERLINK CORP.
3807 Wilshire Blvd., 7th Floor
Los Angeles, CA 90010
213-387-5371

CITADEL COMPUTER CORP.
2 Caldwell Dr.
Amherst, NH 03031
603-880-6200; TLX: 258-194

CITATION COMPUTER SYSTEMS, INC.
10850 Metro Court
St. Louis, MO 63043
314-569-2660; 800-325-1382

CITICORP INVESTOR SERVICES
641 Lexington, 7th Floor
New York, NY 10043
212-303-0252

CITIZEN AMERICA CORP.
2425 Colorado Ave., Suite 300
Santa Monica, CA 90404
213-453-0614; TLX: 23-295-646

CIVIL COMPUTING CORP.
2111 Research Dr., Suite 1
Livermore, CA 94550
415-455-8086

CIVILSOFT
(division of The Technical Group, Inc.)
1592 N. Batavia, Suite 1A
Orange, CA 92667
714-974-1864; TLX: 265-111 TTGI UR

CIVILWARE
P.O. Box 1388
Ft. Gibson, OK 74434
918-478-4528

CLARY CORP.
Precision Instruments Division
320 W. Clary Ave.
San Gabriel, CA 91776
818-287-6111, Ext. 209; TWX: 910-589-3369

CLASSIC TECHNOLOGY, INC.
2090 Concourse Dr.
San Jose, CA 95131
408-434-9333; 800-392-8324

CLASSROOM CONSORTIA MEDIA, INC.
57 Bay St.
Staten Island, NY 10301
800-237-1113

CLEARPOINT, INC.
99 South St.
Hopkinton, MA 01748
617-435-5395; 800-CLEARPT; TLX: 298-281

CLEO SOFTWARE
(a division of Phone 1, Inc.)
1639 N. Alpine Rd.
Rockford, IL 61107
815-397-8110; 800-233-CLEO TLX: 703-639

CLG TECHNOLOGIES CORP.
50 Washington St.
South Norwalk, CT 06854
203-853-4645; TLX: 285-521

CLM/SYSTEMS, INC.
3654 Gandy Blvd.
Tampa, FL 33611
813-831-7090

CLOVIS LABORATORY SOFTWARE, INC.
2002 N. Fine Ave., Suite 105
Fresno, CA 93727
209-255-1616

CMC INTERNATIONAL, INC.
1720-130th Ave., NE, CMC International Bldg.
Bellevue, WA 98005
206-885-1600

CMDS
P.O. Box 1184
Harrisonburg, VA 22801
703-434-5499; 800-826-8728

CMS
401-B W. Dyer Rd.
Santa Ana, CA 92707
714-549-9111

COADE
(division of International Thomson Information, Inc.)
8550 Katy Frwy., Suite 122
Houston, TX 77024
713-973-9060

CODE-A-PHONE CORP.
16261 Southeast 130th St.
Clackamas, OR 97015
503-655-8940; TLX: 474-2019; TWX: 910-454-8413

CODE CRAFT CORP.
218 Rt. 59
Monsey, NY 10952-3536
914-425-0894

CODENOLL TECHNOLOGY CORP.
1086 N. Broadway
Yonkers, NY 10701
914-965-6300; TLX: 646-159

CODEX CORP.
(subsidiary of Motorola, Inc.)
20 Cabot Blvd.
Mansfield, MA 02048
617-364-2000; 800-426-1212, Ext. 201, 206; TLX: 922-443

COEFFICIENT SYSTEMS CORP.
611 Broadway
New York, NY 10012
212-777-6707

COGENT DATA TECHNOLOGIES, INC.
175 West St., P.O. Box 926
Friday Harbor, WA 98250
206-378-2929; TLX: 328-951 BUS SER

COGITATE, INC.
24000 Telegraph Rd.
Southfield, MI 48034
313-352-2345; TLX: 386-581

COGITO SYSTEMS CORP.
562 S. Milpitas Blvd.
Milpitas, CA 95035
408-942-8262; TLX: 171-023

COHERENT COMMUNICATIONS SYSTEMS CORP.
60 Commerce Dr.
Hauppauge, NY 11788
516-231-1550; TLX: 96-1439 COHERENT CEIS; TLX: 221-513 COHER UR

COLLIER-JACKSON, INC.
3707 W. Cherry St.
Tampa, FL 33607
813-872-9990

COLORADO MEMORY SYSTEMS, INC.
800 S. Taft Ave.
Loveland, CO 80537
303-669-8000

COLORADO VIDEO, INC.
P.O. Box 928
Boulder, CO 80306
303-444-3972; TWX: 910-940-3248

COLORCORP
208 N. Berkshire
Bloomfield Hills, MI 48013
313-335-2255

COLORGRAPHIC COMMUNICATIONS CORP.
5388 New Peachtree Rd., P.O. Box 80448
Atlanta, GA 30366
404-455-3921; TLX: 700-574

COLORGRAPHICS SYSTEMS, INC.
5725 Tokay Blvd.
Madison, WI 53719
608-274-5786; TLX: 706-130

COLORPIX, INC.
2830 Peterson Place
Norcross, GA 30071
404-441-3690

COM DEV, INC.
2006 Whitfield Industrial Way
Sarasota, FL 34243
813-753-6411; TLX: 525-158

COMDATA CORP.
7900 N. Nagle Ave.
Morton Grove, IL 60053
312-470-9600; 800-255-2570

COMMAND LINE CORP.
15 Prospect Lane
Colonia, NJ 07067
201-381-3222

COMMAND SOFTWARE SYSTEMS, INC.
31236 Bailard Rd.
Malibu, CA 90265
818-707-7100

COMMAND TECHNOLOGY CORP.
1900 Mountain Blvd.
Oakland, CA 94611
415-339-3530; TLX: 509-330 COMMAND TECH

COMMERCIAL SOFTWARE, INC. (NY)
370 Lexington Ave.
New York, NY 10017
212-557-0350

COMMNET SYSTEMS
7348 Green Oak Terr.
Lanham, MD 20706
301-552-2517

COMMODITY SYSTEMS, INC.
200 W. Palmetto Park Rd., 2nd Floor
Boca Raton, FL 33432
305-392-8663; 800-327-0175; TLX: 522-107

COMMON LANGUAGE SYSTEMS, INC.
100 E. Sybelia Ave.
Maitland, FL 32751
305-628-5973; TWX: 332-559

COMMONWEALTH COMPUTER ASSISTANCE FOR BUSINESS
8700 Wimborne Way
Louisville, KY 40222
502-423-8629

COMMSOFT
2257 Old Middlefield Way
Mountain View, CA 94303
415-967-1900; TLX: 38-3430

COMMUNICATION DYNAMICS, INC.
7300 S.W. Hunziker, Suite 200
Tigard, OR 97223
503-684-5151

COMMUNICATION MACHINERY CORP.
1421 State St.
Santa Barbara, CA 93101
805-963-9471; TLX: 910-334-3508

COMMUNICATION RESOURCES
31220 La Baya Dr., Suite 110
Westlake Village, CA 91362
818-710-7037

COMMUNICATIONS ANALYSIS
100 Fountain St.
Framingham, MA 01701
617-875-7300

COMMUNICATIONS SCIENCES, INC.
100 N. Seventh St., Suite 300
Minneapolis, MN 55403
612-332-7559

COMMUNICATIONS SOLUTIONS, INC. (CSI)
992 S. Saratoga - Sunnyvale Rd.
San Jose, CA 95129
408-725-1568; TLX: 171-506 COM SOL SNJ UD

COMMUNICATIONS SUPPORT GROUP
3 Pebble Hill Rd., N
Dewitt, NY 13214
315-446-9501

COMMUNIQUE' CORP.
5380 Capital Circle, NW
Tallahassee, FL 32303
904-562-4255

COMPANION SOFTWARE, INC.
7400 W. Beverly Blvd.
Los Angeles, CA 90036
213-462-2759

COMPAQ COMPUTER CORP.
20555 FM 149
Houston, TX 77070
713-370-0670; 800-231-0900

COMPASS
10172 Linn Station Rd.
Louisville, KY 40223
502-426-8589

COMPLE-SOFTWARE
(division of Comple-Ware)
P.O. Box 69
Iowa City, IA 52244
319-354-4336

THE COMPLETE CADD CO., INC.
1008 Western, Suite 415
Seattle, WA 98104
206-682-1157; 800-358-1555

COMPLETE ELECTRONICS
23501 Ridge Route Dr., Bldg. E
Laguna Hills, CA 92653
714-458-0136

COMPLETE SOFTWARE, INC.
60 Aberdeen Ave.
Cambridge, MA 02138
617-492-5305

COMPLEXX SYSTEMS, INC.
4930 Research Dr.
Huntsville, AL 35805
205-830-4310; TLX: 880-114

COMPOSITION TECHNOLOGY INTERNATIONAL (CTI)
209 E. Alameda Ave.
Burbank, CA 91502-1561
818-848-1010; TLX: 910-380-169 CTI UD

COMPREP CORP.
1301 N. Tustin Ave.
Anaheim, CA 92807
714-385-1111

COMPSOL CORP.
318 Montgomery St.
Alexandria, VA 22314
703-836-6222

COMPUFIRM CORP.
7841 Balboa Ave., Suite 108
San Diego, CA 92111
619-571-0228

COMPUMAX ASSOCIATES, INC.
P.O. Box 7239
Menlo Park, CA 94026
415-854-6700

COMPUTAPIPE CORP.
17610 Beach Blvd., Suite 56
Huntington Beach, CA 92647
714-848-4405; 800-235-1121; TLX: 295-627 TRANSMARK UR

COMPUTATIONAL SYSTEMS, INC.
1900 N. Winston Rd.
Knoxville, TN 37919
615-693-0551; TLX: 510-101-1231

COMPUTER ACCESSORIES CORP. (CA)
6610 Nancy Ridge Dr.
San Diego, CA 92121
619-457-5500; TLX: 697-193 COMP ACCESS

COMPUTER AIDED MANAGEMENT
24 Professional Center Pkwy.
San Rafael, CA 94903-2703
415-472-5120

COMPUTER AIDED PLANNING, INC.
169 Monroe, NW
Grand Rapids, MI 49503
616-454-0000

COMPUTER AIDED STRUCTURAL TECHNOLOGY
P.O. Box 7326
Fremont, CA 94537-7326
415-795-0509

COMPUTER AIDED TIME SHARE, INC.
9700 B West 76th St.
Eden Prairie, MN 55344
612-829-1887

COMPUTER ANALYSTS INTERNATIONAL, INC.
720 N. Post Oak, Suite 230
Houston, TX 77024
713-688-8150

COMPUTER APPLICATION SPECIALISTS, INC.
67 S. Bedford St., Suite 400
Burlington, MA 01803
617-229-5856

COMPUTER APPLICATIONS CORP.
1719 Rt. 10
Parsippany, NJ 07054
201-540-8010

COMPUTER ASSOCIATES INTERNATIONAL, INC.
711 Stewart Ave.
Garden City, NY 11530
516-227-3300; 800-645-3003; TLX: 475-8093

COMPUTER ASSOCIATES INTERNATIONAL, INC.
Micro Products Division
2195 Fortune Dr.
San Jose, CA 95131
408-942-1727; TLX: 910-338-2003

COMPUTER COMMUNICATIONS SPECIALISTS, INC.
6683 Jimmy Carter Blvd.
Norcross, GA 30071
404-441-3114

COMPUTER CONSOLES, INC.
97 Humboldt St.
Rochester, NY 14609-7493
716-482-5000, Ext. 2902; 800-7477; TLX: 978-407

THE COMPUTER CONSULTING CENTER, INC.
575 Eighth Ave., 19th Floor
New York, NY 10018
212-564-9088

COMPUTER CONTINUUM
75 Southgate Ave., Suite 6
Daly City, CA 94015
415-755-1978

COMPUTER CONTROL SYSTEMS, INC.
Rt. 3, P.O. Box 168
Lake City, FL 32055
904-752-0912; TLX: 910-997-9313

COMPUTER CORP. OF AMERICA (CCA)
4 Cambridge Center
Cambridge, MA 02142
617-492-8860; 1-800-258-4100

COMPUTER COVENANT CORP.
309 Farmington Ave., Suite A211
Farmington, CT 06032
203-677-6563

COMPUTER DESIGNED SYSTEMS, INC.
Commercial Systems Division
10911 Olson Memorial Hwy.
Minneapolis, MN 55441
612-545-2855

COMPUTER DETAILING CORP.
301 York Rd.
Warminster, PA 18974
215-675-4831

COMPUTER DEVELOPMENT SPECIALISTS OF LONG ISLAND, INC.
57 Kirkland Dr.
Greenlawn, NY 11740
516-261-9088

COMPUTER DEVICES INTERNATIONAL
1345-A2 Doolittle Dr.
San Leandro, CA 94577
415-633-1899

COMPUTER EXPERT, INC.
1501 Broadway
New York, NY 10036
212-840-2425

COMPUTER FRIENDS
6415 S.W. Canyon Court
Portland, OR 97221
503-297-2321; 800-547-3303

COMPUTER GRAPHICS GROUP, INC.
568 14th St., NW
Atlanta, GA 30318
404-876-9469

COMPUTER HANDHOLDERS, INC.
P.O. Box 59
Arcola, PA 19420
215-565-7467

COMPUTER IDENTICS
5 Shawmut Rd.
Canton, MA 02021
617-821-0830; TWX: 710-348-0828

COMPUTER INNOVATIONS, INC.
980 Shrewsbury Ave.
Tinton Falls, NJ 07724
201-542-5920; TLX: 705-127

COMPUTER KEYES
21929 Makah Rd.
Woodway, WA 98020
206-776-6443

COMPUTER LANGUAGE RESEARCH, INC.
Electronic Form Systems Division
2395 Midway Rd.
Carrollton, TX 75006
214-250-7000

COMPUTER LOGICS LTD., INC.
2800 Rockcreek Pkwy., Suite 301
North Kansas City, MO 64117
800-235-0030

COMPUTER MATHWARE
P.O. Box 1327
Princeton, NJ 08542
609-924-6582

COMPUTER MEDICA CORP.
Medical Software Division
333 Main St., Suite 1272
Center Moriches, NY 11934-7272
516-878-4840

COMPUTER PERIPHERALS, INC.
2635 Lavery Court, Suite 5
Newbury Park, CA 91320
805-854-7600; TLX: 759-299 CPI

COMPUTER POWER, INC.
124 W. Main St.
High Bridge, NJ 08829
201-638-8000; 1-800-562-5088; TLX: 847-481

COMPUTER PRINTERS INTERNATIONAL, INC. (COMPRINT)
340 E. Middlefield Rd.
Mountain View, CA 94043
415-592-5700

COMPUTER PRODUCTS INTERNATIONAL, INC.
740 S. Hillview
Milpitas, CA 95035
408-945-0100; TLX: 172-176 CPIINC

COMPUTER SCIENCE INNOVATIONS, INC.
1280 Clearmont St., NE
Palm Bay, FL 32905
305-676-2923

COMPUTER SECURITY CORP.
2400 W. Devon
Chicago, IL 60659
312-761-1764

COMPUTER SOFTWARE TECHNOLOGY
P.O. Box 896
Lomita, CA 90717
213-377-7681

COMPUTER SOLUTIONS (FL)
21706 Altamira Ave.
Boca Raton, FL 33433
305-394-3458

COMPUTER SUPPORT CORP.
2215 Midway Rd.
Carrollton, TX 75006
214-661-8960; TLX: 284-831 CSCTX UR

COMPUTER SYSTEMS
26401 Harper Ave.
St. Clair Shores, MI 48081
313-779-8700

COMPUTER SYSTEMS CONSULTANTS
1454 Latta Lane
Conyers, GA 30207
404-483-1717; 404-483-4570

COMPUTER TALK, INC.
2800 S. Rooney Rd., P.O. Box 148
Morrison, CO 80465
303-697-5485

COMPUTER TECHNOLOGY ASSOCIATES, INC. (CTA)
5670 S. Syracuse Circle
Englewood, CO 80111
303-889-1200

COMPUTER TECHNOLOGY CORP.
502 Technecenter Dr.
Milford, OH 45150
513-831-2340; 800-233-3329; 800-255-3329 (OH)

COMPUTER TERMINAL SYSTEMS, INC.
75 Mall Dr.
Commack, NY 11725-5703
516-864-5200; TLX: 291-411; 291-413

COMPUTER * THOUGHT CORP.
1721 W. Plano Pkwy., Suite 125
Plano, TX 75075
214-424-3511

COMPUTER TOOLBOX, INC.
1325 E. Main St.
Waterbury, CT 06705
203-597-0273; 1-800-321-DATA

COMPUTER TRANSCEIVER SYSTEMS, INC.
66 E. Midland Ave., P.O. Box 15
Paramus, NJ 07652
201-261-6800

COMPUTER VECTORS, INC.
1502 Jackson St., Suite 103
Oakland, CA 94612
415-444-1591; 800-262-RCOM; TLX: 650-236-9725

COMPUTERISED BUSINESS SYSTEMS, INC.
115 S. Walnut
La Crescent, MN 55947
507-895-8600

COMPUTERLINE
52 School St.
Pembroke, MA 02359
617-773-0001

COMPUTERS AND STRUCTURES, INC.
1918 University Ave.
Berkeley, CA 94704
415-845-2177; TLX: 510-100-3830 CSI BERKELEY

COMPUTERVISION CORP.
15 Crosby Dr.
Bedford, MA 01730
617-275-1800; TLX: 681-7350

COMPUTING
20 Prescott
San Francisco, CA 94133
415-567-1634; TLX: 184-198 SRVCE

COMPUTING RESOURCE CENTER
10801 National Blvd.
Los Angeles, CA 90064
213-470-4341; 800-STATAPC

COMPUTONE SYSTEMS, INC.
One Dunwoody Park
Atlanta, GA 30338
404-393-3010

COMPUVIEW PRODUCTS, INC.
1955 Pauline, Suite 300
Ann Arbor, MI 48103
313-996-1299; TLX: 701-821

COMPUVISION INTERNATIONAL
P.O. Box 1287, Old Chelse Station
New York, NY 10113
212-213-0134

COMREX INTERNATIONAL, INC.
2780 Lomita Blvd.
Torrance, CA 90505
213-539-9140

COMSELL, INC.
500 Tech Pkwy.
Atlanta, GA 30313
404-872-2500

COMSEN, INC.
650 Wilson Lane
Mechanicsburg, PA 17055
717-691-8123

COMSHARE, INC.
3001 S. State St.
Ann Arbor, MI 48104
313-994-4800; 800-922-7979; TWX: 810-223-6014

COMSPEC COMMUNICATIONS, INC.
153 Bridgeland Ave., Unit 5
Toronto, Ontario, CD
416-787-0617

COMSPEC, INC.
10700 Hammerly Blvd., Suite 120
Houston, TX 77043
713-461-4487, Ext. 112; TLX: 910-881-4763

COMTERM, INC.
110 Hymus Blvd.
Pointe Claire, Quebec, CD H9R 1E8
514-694-4332; TLX: 05-821-812

COMWARE INTERNATIONAL
3477 Rancho View Court
San Jose, CA 95136
408-923-4139

CONCAP COMPUTING SYSTEMS
680 Hegenberger Rd., Suite B2
Oakland, CA 94621
415-635-5750

CONCENTRIC DATA SYSTEMS, INC.
18 Lyman St., P.O. Box 4063
Westboro, MA 01581-4063
617-366-1122

CONCEPT GROUP, INC.
4849 N. Mesa, Suite 301
El Paso, TX 79912
915-544-4444; 800-448-4414

CONCEPT OMEGA CORP.
102 Old Camplain Rd., P.O. Box 1035
Somerville, NJ 08876
201-722-9565; 800-524-0430; TLX: 910-380-8394 OMEGA

CONCEPT TECHNOLOGIES, INC.
6950 S.W. Hampton
Tigard, OR 97223
503-684-3314; 800-631-2692; TLX: 283-781 RCA

CONCEPTIMATION
P.O. Box 590131
Houston, TX 77259
713-488-8187

CONCEPTUAL SOFTWARE, INC.
P.O. Box 56627
Houston, TX 77256
713-667-4222

CONCORD DATA SYSTEMS, INC.
303 Bear Hill Rd.
Waltham, MA 02154
617-890-1394; TLX: 951-793

CONCOURSE CORP.
11441 Valley View Rd.
Minneapolis, MN 55344
612-829-5436

CONCURRENT SCIENCES, INC.
106 East 3rd St., P.O. Box 9666
Moscow, ID 83843
208-882-0445; TLX: 494-2758

CONDOR COMPUTER CORP.
2051 S. State St.
Ann Arbor, MI 48104
313-769-3988; TLX: 810-223-2418

CONETIC SYSTEMS, INC.
1470 Doolittle Dr.
San Leandro, CA 94577
415-430-8875

CONGENIAL SOFTWARE
203 West 16th St.
Lumberton, NC 28358
919-739-3733

CONNECT COMPUTER, INC.
9855 West 78th St.
Eden Prairie, MN 55344
612-944-0181

CONNECTICUT SOFTWARE SYSTEMS CORP.
30 Wilson Ave.
Rowayton, CT 06853
203-838-1844; 800-321-0409

CONNECTIONS
322 E. Center St.
W. Bridgewater, MA 02379
617-584-8885

CONOGRAPHIC CORP.
17841 Fitch
Irvine, CA 92714
714-474-1188; TLX: 755-453 CONOGRAPHIC UD

CONQUEST COMPUTER INDUSTRIES
2630 Walnut Ave., Unit C
Tustin, CA 92680
714-838-9583

CONRAC DIVISION
600 N. Rimsdale Ave.
Covina, CA 91722
818-966-3511, Ext. 271

CONSOLINK CORP.
1275 S. Sherman Dr.
Longmont, CO 80501
303-651-2014; 800-525-6705; TWX: 910-320-0786

CONSORTIUM SOFTWARE
4250 ISR, 426 Thompson St.
Ann Arbor, MI 48109
313-763-3482

CONSTRUCTION SYSTEMS SOFTWARE, INC.
5805 Callaghan Rd., Suite 101
San Antonio, TX 78228
512-681-5768; 800-531-1035

CONTEL COMPUTER SYSTEMS
(subsidiary of Continental Telecom, Inc.)
2055 West 190th St., P.O. Box 3759
Torrance, CA 90510
213-323-8170; TLX: 664-711

CONTEL INFORMATION SYSTEMS, INC.
(subsidiary of Continental Telecom, Inc.)
130 Steamboat Rd.
Great Neck, NY 11024
516-829-5900

CONTINENTAL RESOURCES, INC.
Peripherals Division
175 Middlesex Tpke.
Bedford, MA 01730
617-275-0850, Ext. 240, 351; 800-343-4688; 800-682-0024; TWX: 710-326-0833

CONTITRONIX, INC.
3848 Marquis Dr.
Garland, TX 75042
214-276-0555; TLX: 732-524

CONTRAX SYSTEMS, INC.
3365G N. Arlington Heights Rd.
Arlington Heights, IL 60004
312-870-1555

CONTRIVER ENTERPRISE CO., LTD.
1035 Clark Dr.
Vancouver, B.C., CD V5L 3J9
604-251-9925; TLX: 04-5112 CONTVER

CONTROL-C SOFTWARE, INC.
6441 S.W. Canyon Court
Portland, OR 97221
503-292-8842; TLX: 151-215 JLICCS PTL

CONTROL CONCEPTS CORP.
328 Water St., P.O. Box 1380
Binghamton, NY 13902-1380
607-724-2484; TLX: 622-24380; 705-770 (Int'l.)

CONTROL DATA BUSINESS CENTERS (CDBC)
500 W. Putnam Ave., P.O. Box 7100
Greenwich, CT 06836
203-622-2000

CONTROL DATA CORP.
8100 34th Ave., S
Minneapolis, MN 55440
612-931-3131, Ext. 3422

CONTROL DATA CORP.
Science Information Services
8100 34th Ave., S, P.O. Box 0
Minneapolis, MN 55420
612-853-3511

CONTROL SYSTEMS, INC.
2675 Patton Rd., P.O. Box 64750
St. Paul, MN 55164
612-789-2421; 1-800-826-4281; TLX: 756-601

CONTROL TECHNOLOGY, INC. (OK)
8200 N. Classen Blvd., Suite 101
Oklahoma City, OK 73114
405-840-3163

CONTROLLED POWER CO.
1955 Stephenson Hwy.
Troy, MI 48083
313-528-3700; 1-800-521-4792; TWX: 810-232-3401

CONTROLSOFT, INC.
7568 Briarcliff Pkwy.
Cleveland, OH 44130
216-234-5759

CONVERGENT SOLUTIONS, INC.
118-35 Queens Blvd., Forest Hills Tower
Forest Hills, NY 11375
718-896-9636; TLX: 883-415

CONWAY DATA, INC.
40 Technology Park/Atlanta
Norcross, GA 30092
404-446-6996; 800-554-5686

COOLIDGE & ASSOCIATES
2050 S. Lamar, Suite 1
Austin, TX 78704
512-443-5329

COOSOL, INC.
3015-A Harbor Blvd.
Costa Mesa, CA 92626
714-545-2216

COPAL (U.S.A.), INC.
2291 205th St.
Torrance, CA 90502
213-618-0225; 800-441-7263

CORDATA
275 E. Hillcrest Dr.
Thousand Oaks, CA 91360
805-495-5800; 800-621-6746; TLX: 650-269-6270 MCI

CORE ANALYTIC, INC.
674 Route 202-206, N
Bridgewater, NJ 08807
201-218-0900

CORE INTERNATIONAL
7171 N. Federal Hwy.
Boca Raton, FL 33431
305-997-6055; TLX: 315-809

CORE SOFTWARE, INC.
26303 Oak Ridge Dr.
Spring, TX 77380
713-292-2177

CORE TECHNOLOGY CORP.
7201 W. Saginaw, Suite 115
Lansing, MI 48917
517-321-4659

CORECO, INC. (THE COMPUTER RESEARCH COMPANY)
555 Saint Thomas St.
Longueuil, Quebec, Canada J4H 3A7
514-651-3100; 800-361-4997

CORPORATE CONSULTING CO.
556 Trapelo Rd.
Belmont, MA 02179
617-484-1709; 617-489-3665

CORPORATE DATA SCIENCES, INC.
2560 Mission College Blvd., Suite 102
Santa Clara, CA 95054
408-980-9747; TLX: 757-453

CORPORATE INFORMATION SYSTEMS, INC. (CIS)
850 Boyce Rd.
Bridgeville, PA 15017
412-221-4410

CORPORATE MICROSYSTEMS, INC.
P.O. Box 277
Etna, NH 03750
603-448-5193; TLX: 910-380-1581 CORPMICROSYS

CORVUS OEM GROUP
3707 Williams Rd.
San Jose, CA 95117
408-247-1100; TLX: 882-196

CORVUS SYSTEMS, INC.
2100 Corvus Dr.
San Jose, CA 95124
408-559-7000; TLX: 278-976

COSI
313 N. First St.
Ann Arbor, MI 48103-3301
313-665-8778; TLX: 466-568

COSMO WORLD CORP.
2975 Wilshire Blvd., Suite 530
Los Angeles, CA 90010
800-553-5773

COSMOS, INC.
19530 Pacific Hwy., S
Seattle, WA 98188
206-824-9942; TLX: 910-380-8627 COSMOS WA

COTTAGE INDUSTRIES, INC.
407 Gordon, P.O. Box 176
Liberty, MO 64068
816-221-8088

COUGAR MOUNTAIN SOFTWARE
2609 Kootenai, P.O. Box 6886
Boise, ID 83707
208-344-2540

COURTNEY BUSINESS SYSTEMS, INC.
710 W. Main
Arlington, TX 76013
817-265-2132

CP INTERNATIONAL, INC.
(division of Computer Power Group)
210 South St.
New York, NY 10002
212-815-8691; TLX: 141-007

CPT CORP.
8100 Mitchell Rd., P.O. Box 295
Minneapolis, MN 55440
612-937-8000; TLX: 290-775

CPU ELECTRONICS
2652 Slough St.
Mississauga, Ontario, CD L4T 3T2
416-673-7355

CRADEN PERIPHERALS CORP.
204 Cooper Center
Pennsauken, NJ 08109
609-488-0700; TLX: 759-716

CREATIVE COMPUTER PRODUCTS, INC.
6369 Nancy Ridge Dr.
San Diego, CA 92121
619-458-1965; 1-800-231-5413; 1-800-523-5441 (CA)

CREATIVE DIGITAL, INC.
1662 West 820 North
Provo, UT 84601
801-373-9843; TLX: 469-241

CREATIVE FIRMWARE
P.O. Box 850064
Richardson, TX 75085
312-579-9587; 800-622-4070; 800-942-7317 (IL)

CREATIVE LOGIC
8240 Indy Lane
Indianapolis, IN 46224
317-271-1100

CREATIVE MAINTENANCE SYSTEMS, INC.
400 Riverside Ave.
Jacksonville, FL 32202
904-355-2745; 800-342-5954 (FL); 800-874-5554

CREATIVE MICROSALES
3339 Vincent Rd.
Pleasant Hill, CA 94523
415-945-1201; 800-321-3324

CREATIVE PROGRAMMING
P.O. Box 112097
Carrollton, TX 75011
214-245-6090

CREATIVE SOFTWARE SYSTEMS
399 Sherman Ave., Suite 11
Palo Alto, CA 94306
415-328-5033

ROGER CREIGHTON ASSOCIATES, INC.
274 Delaware Ave.
Delmar, NY 12054
518-439-4991

CROSS DATA SYSTEMS
P.O. Box 452
Pottstown, PA 19464
215-327-8230

CROSS EDUCATIONAL SOFTWARE, INC.
1802 N. Trenton St., P.O. Box 1536
Ruston, LA 71270
318-255-8921

CROSS INFORMATION CO.
1881 9th St., Canyon Center, Suite 311
Boulder, CO 80302-5181
303-444-7799

CROSSTECH, INC.
2720B Aiello Dr.
San Jose, CA 95111
408-972-0400; TLX: 293-956 CTI SJ

CRUNCH SOFTWARE CORP.
2547 22nd Ave.
San Francisco, CA 94116
415-564-7337; TLX: 499-7294 CRISP UI

CS LABORATORIES, INC.
459 N. Dean Rd.
Auburn, AL 36830
205-821-1133; 1-800-626-0381

C. S. D., INC.
12 Willard Grant Rd.
Sudbury, MA 01776
617-443-2750

CSS LABORATORIES, INC.
13542 Newport Ave.
Tustin, CA 92680
714-544-7770; TLX: 572-0012

CTC SYSTEMS, INC.
10311 De Anza Blvd., Suite 4
Cupertino, CA 95014
408-725-0501; TLX: 29-6624

CTS ENGINEERING, INC.
P.O. Box 1137
Monroe, LA 71210
318-323-6060

CTS FABRI-TEK, INC.
DATACOMM Products Division
6900 Shady Oak Rd.
Eden Prairie, MN 55344
612-941-9100; 1-800-328-6104; TWX: 910-576-2913

CUADRA ASSOCIATES, INC.
2001 Wilshire Blvd., Suite 305
Santa Monica, CA 90403-5682
213-829-9972

CUBICOMP CORP.
21325 Cabot Blvd.
Hayward, CA 94545
415-887-1300; TLX: 294-295

CUCUMBER INFORMATION SYSTEMS
5611 Kraft Dr.
Rockville, MD 20852
301-984-3539

CUESTA SYSTEMS CORP.
3440 Roberto Court
San Luis Obispo, CA 93401
805-541-4160; TLX: 494-9381 CUESTA

CULLINET SOFTWARE, INC.
400 Blue Hill Dr.
Westwood, MA 02090
617-329-7700; TWX: 200-102; 200-235; 924-442

CURRENT TECHNOLOGY, INC.
1400 S. Sherman
Richardson, TX 75081
214-238-5300

CURTIS MANUFACTURING CO., INC.
305 Union St.
Peterborough, NH 03458
603-924-7803

CUSTOM APPLICATION SYSTEMS, INC.
11726 San Vicente Blvd., Suite 500
Los Angeles, CA 90049
213-820-5800

CVI LASER CORP.
200 Dorado Place, SE, P.O. Box 11308
Albuquerque, NM 87123
505-296-9500; 505-296-9541; TLX: 660-335

CXI, INC.
3606 W. Bayshore Rd.
Palo Alto, CA 94303
415-424-0700; 800-221-6402; TLX: 821-945

CYAN CO., INC.
508 Wilson Rd.
Weatherford, OK 73096
405-772-0435

CYBERENGINEERING CORP.
P.O. Box 4143
Huntsville, AL 35815-4143
205-881-8542; 205-880-2250

CYBERNETIC MICRO SYSTEMS
P.O. Box 3000
San Gregorio, CA 94074
415-726-3000; TWX: 910-350-5842

CYBERNETICS, INC.
8041 Newman Ave., Suite 208
Huntington Beach, CA 92647
714-848-1922; TLX: 910-990-6244

CYBERRESEARCH, INC.
5 Science Park Center, P.O. Box 9565
New Haven, CT 06536
203-786-5151; 800-341-2525

CYCLO-TRONICS, INC.
1345 N. Old Rand Rd.
Wauconda, IL 60084
312-526-0800

CYGNET TECHNOLOGIES, INC.
1296 Lawrence Station Rd.
Sunnyvale, CA 94089
408-734-9946

CYTEK, INC.
805 Turnpike St.
North Andover, MA 01845
617-687-8086

CYTROL PORTABLE DATA CORP.
(subsidiary of Cytrol, Inc.)
4620 West 77th St.
Edina, MN 55435
612-835-4884

CYTROL, INC.
4620 West 77th St.
Minneapolis, MN 55435
612-835-4884

D&A SYSTEMS, INC.
928 N. Fourth St.
Philadelphia, PA 19123
215-627-7340

DAC SOFTWARE, INC.
5580 Peterson, Suite 130
Dallas, TX 75240
214-458-0038; 1-800-431-0800

DAEWOO ELECTRONICS CO., LTD.
100 Daewoo Place
Carlstadt, NJ 07072
202-935-8700; TLX: 133-563 DAEWOO CARL

DAI, INC.
7652 Standish Place
Rockville, MD 20855
301-424-0270

DAISY SYSTEMS CORP.
700 Middlefield Rd.
Mountain View, CA 94039-7006
415-960-0123; TLX: 858-262

DAISY SYSTEMS HOLLAND B.V.
3731 Northcrest Rd., Suite 28
Atlanta, GA 30340
404-451-0257; 1-800-423-2479; TWX: 510-600-7265

DALSOFT SYSTEMS
3565 High Vista
Dallas, TX 75234
214-247-7695

DANNYSOFT, INC.
132 East 45th St., Suite 5G
New York, NY 10017
212-370-1697

DASOFT DESIGN SYSTEMS, INC.
2550 Ninth St., Suite 113
Berkeley, CA 94710
415-486-0822; TLX: 494-5245

DASTRA AMERICA, INC.
976 N. Lemon St.
Orange, CA 92667
714-663-2275; TLX: 494-2138

DATA ACCESS CORP.
8525 Southwest 129th Terr.
Miami, FL 33156
305-238-0012; TLX: 469-021 DATAACCESSCI

DATA ACQUISITION SYSTEMS, INC.
3405B N. Kennicott Ave.
Arlington Heights, IL 60004-1452
312-259-7330

DATA BASE CONSULTING
P.O. Box 41
Rupert, ID 83350
208-436-0211

DATA BASE DECISIONS
14 Bonnie Lane
Atlanta, GA 30328
404-256-3860; 800-722-7006

DATA BASED SOLUTIONS, INC.
P.O. Box 126236
San Diego, CA 92112
619-236-1182

DATA-BASICS, INC.
11000 Cedar Rd., Suite 110
Cleveland, OH 44106.
216-721-3400

DATA BUSINESS VISION, INC.
3510 Dunhill St., Suite B
San Diego, CA 92121
619-450-1557

DATA CONSULTING GROUP
12 Skylark Dr., Suite 18
Larkspur, CA 94939
415-927-0990

DATA-DOC ELECTRONICS, INC.
9415 Neils Thompson
Austin, TX 78759
512-836-7323; 1-800-DATA DOC

DATA ELEKTRONIK
18 Assembly Square Dr.
Somerville, MA 02145
617-625-4300; TLX: 948-068

DATA GENERAL CORP.
4400 Computer Dr.
Westboro, MA 01581
617-366-8911, Ext. 4723

THE DATA GROUP CORP.
(a NYNEX Co.)
77 S. Bedford St., Burlington Business Center II
Burlington, MA 01803
617-242-4100; 800-247-1300

DATA INNOVATIONS, INC.
660 Suffolk St.
Lowell, MA 01854
617-452-0027

DATA INTERFACE SYSTEMS CORP.
827 Harris Ave.
Austin, TX 78705
512-346-5641

DATA LANGUAGE CORP.
47 Manning Rd.
Billerica, MA 01821
617-663-5000; 800-FAST-4GL; TLX: 509-965

DATA LAW CO. (DLC)
6341 S. Troy, Suite E
Englewood, CO 80111
303-790-8193

DATA MANAGEMENT SYSTEMS, INC.
2141 Centennial Rd.
Salina, KS 67401
913-823-6440

DATA NET CORP.
7255F Corporate Center Dr.
Miami, FL 33126
305-593-1900

DATA PRINTER CORP.
(subsidiary of Printronix, Inc.)
99 Middlesex St.
Malden, MA 02148
617-321-2400; TWX: 710-348-0794

DATA RACE, INC.
5839 Sebastian Place
San Antonio, TX 78249
512-692-3909; TLX: 517-659 RTS TEXAS

DATA RECORDING SYSTEM, INC.
80 Ruland Rd.
Melville, NY 11747
516-293-2400; TLX: 701-980

DATA RESOURCE PROTECTION, INC.
3663 Arnold Ave.
Naples, FL 33942
813-774-3282

DATA RESOURCES, INC.
(subsidiary of McGraw-Hill, Inc.)
24 Hartwell Ave.
Lexington, MA 02173
617-863-5100

DATA SPECIALTIES, INC.
3455 Commercial Ave.
Northbrook, IL 60062
312-564-1800; TLX: 206-230

DATA SYSTEMS (CA)
2301 Churchill Dr.
Oxnard, CA 93033
805-483-3464

DATA SYSTEMS HARDWARE
6400 Goldsboro Rd., Suite 207
Bethesda, MD 20817
301-229-5002

DATA TECHNOLOGY CORP.
2775 Northwestern Pkwy.
Santa Clara, CA 95051
408-496-0434; TWX: 910-338-2044

DATA TECHNOLOGY, INC.
4 Gill St.
Woburn, MA 01801
617-935-8820

DATA TRANSFORMS, INC.
616 Washington St.
Denver, CO 80203
303-832-1501

DATA TRANSLATION, INC.
100 Locke Dr.
Marlboro, MA 01752
617-481-3700; TLX: 951-646

DATA TRANSPORT SYSTEMS, INC.
347 East 62nd St.
New York, NY 10021
212-888-6931

DATA TREK
(division of Interface, Inc.)
1949 Woodhaven Dr.
Ft. Wayne, IN 46819
219-745-4874

DATA WORLD PRODUCTS
P.O. Box 33
Francestown, NH 03043
603-588-3746

DATA ZONE, INC.
7136 Owensmouth Ave.
Canoga Park, CA 91303
818-704-4955

DATABILITY SOFTWARE SYSTEMS, INC.
322 Eighth Ave.
New York, NY 10001
212-807-7800

DATABOARD, INC.
323 Vintage Park Dr.
Foster City, CA 94404
415-571-8811

DATACHANGE, INC.
6075 Atlantic Blvd.
Norcross, GA 30071
404-441-1332

DATACOMP SYSTEMS, INC. (PA)
One Fairway Plaza, Suite 220
Huntingdon Valley, PA 19006
215-947-9900

DATACOPY CORP.
1215 Terra Bella Ave.
Mountain View, CA 94043
415-965-7900; 800-556-1234, Ext. 96; 800-441-2345, Ext. 96 (CA); TLX: 701-994 DATACOPY UD

DATACOR, INC.
2 Shunpike Rd.
Madison, NJ 07940
201-822-1551

DATACUBE
4 Dearborn Rd.
Peabody, MA 01960
617-535-6644; TWX: 710-347-0125

DATAFLOW TECHNOLOGIES, INC.
8422 Bellona Lane, Suite 303, P.O. Box 10527
Towson, MD 21204
301-296-2630

DATAGRAM
11 Main St.
East Greenwich, RI 02818
401-885-4840; 800-235-5030; TLX: 952-161

DATAGRAPHIC SYSTEMS
9101 General Dr.
Plymouth, MI 48170
313-451-7025

DATAKEY, INC.
12281 Nicollet Ave.
Burnsville, MN 55337
612-890-6850; TLX: 290-779

DATALEX, INC.
650 5th St.
San Francisco, CA 94107
415-541-0780; 800-962-8888; TLX: 888-450 DATALEXSFO

DATALIGHT
11557 8th Ave., NE
Seattle, WA 98125
206-367-1803

DATALINK READY, INC.
1500 W. Nasa Blvd.
Melbourne, FL 32901
305-676-0500; TLX: 566-537

DATAMAT PROGRAMMING SYSTEMS, INC.
832 E. Main St.
Stamford, CT 06902-3903
203-967-4505

DATAMATE CO.
4135 South 100th East Ave., Suite 128
Tulsa, OK 74146
918-664-7276; 1-800-262-7276

DATAMATICS MANAGEMENT SERVICES, INC.
330 New Brunswick Ave.
Fords, NJ 08863
201-738-9600

DATAMATION, INC.
997 Old Eagle School Rd.
Wayne, PA 19087
215-687-4700

DATAMAX CORP.
11 W. Oxmoor Tower, Suite 318
Birmingham, AL 35209
205-942-9697

DATAMAXX USA CORP.
1815 S. Gadsden St.
Tallahassee, FL 32301
904-224-8213; TLX: 808-471

DATAMED RESEARCH, INC.
1433 Roscomare Rd.
Los Angeles, CA 90077
213-472-8825

DATAMENSION
615 Academy Dr.
Northbrook, IL 60062
312-564-5060

DATAMYTE CORP.
14960 Industrial Rd.
Minnetonka, MN 55345
612-935-7704; TLX: 29-0803

DATANETICS
114 N. Beatty St.
Pittsburgh, PA 15206
412-363-3282

DATAPOINT CORP.
9725 Datapoint Dr.
San Antonio, TX 78284
512-699-7000

DATAPORT/CS
5525 Olinda Rd., Computer Products Research Facility, Bldg. C
El Sobrante, CA 94803
415-233-2530

DATAPRODUCTS CORP.
6200 Canoga Ave.
Woodland Hills, CA 91365
818-887-8000; 800-258-1386; TLX: 67-4734

DATASMITH, INC.
4200 Somerset, Suite 256, P.O. Box 8036
Shawnee Mission, KS 66208
913-381-9118

DATASOUTH COMPUTER CORP.
4216 Stuart Andrew Blvd.
Charlotte, NC 28210
704-523-8500; TLX: 684-3018

DATASOUTHERN, INC.
P.O. Box 5275
Kingsport, TN 37663
615-378-3121

DATASTREAM NETWORKING
(division of Lee Data Corp.)
2520 Mission College Blvd.
Santa Clara, CA 95050
408-986-8022

DATASYSTEMS SOFTWARE CORP.
7334 Topanga Canyon Blvd.
Canoga Park, CA 91303
818-887-3300; TLX: 677-109 BURX LSA

DATATRAK
1700 Stierlin Rd.
Mountain View, CA 94043
415-967-3911; 800-227-8311; 800-535-5005 (CA)

DATAVISION CORP.
72 Hosmer Place
Marlboro, MA 01572
617-480-0404

DATAVIZ, INC.
16 Winfield St.
Norwalk, CT 06855
203-866-4944; TWX: 510-100-4900

DATAVUE
One Mecca Way
Norcross, GA 30093-2919
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DATAWAY SYSTEMS
(division of A. D. Kahn, Inc.)
25675 W. Eight Mile Rd.
Redford, MI 48240
313-533-3282

DATAWRITER CORP.
2793 Pheasant Rd.
Excelsior, MN 55331
612-471-0240

DATEC, INC. (NC)
P.O. Box 13568
Research Triangle Park, NC 27709-3568
919-544-6433; 800-334-7722

DATEM, LTD.
148 Colonnade Rd.
Nepean, Ontario, CD K2E 7R4
613-225-5919

DATRAN CORP.
10519 Lauriston Ave.
Los Angeles, CA 90064
213-474-3684

DATREX, INC.
3536 W. Osborn Rd.
Phoenix, AZ 85019
602-272-9491

DATRONIC SYSTEMS, INC.
P.O. Box 863549
Plano, TX 75086
214-422-7711

DAVELL CUSTOM SOFTWARE
P.O. Box 4162
Cleveland, TN 37320-4162
615-336-3055

DAVIS & ASSOCIATES, INC.
1655 Peachtree St., NE
Atlanta, GA 30324
404-875-0793

DAYFLO, INC.
17701 Mitchell Ave., N
Irvine, CA 92714
714-474-1364

DAYNA COMMUNICATIONS
50 S. Main
Salt Lake City, UT 84144
801-531-0600

D&B COMPUTING SERVICES
(a Dun and Bradstreet Co.)
187 Danbury Rd.
Wilton, CT 06897
203-762-2511

DBI SOFTWARE PRODUCTS
206 W. Michigan St., Suite 100
Mt. Pleasant, MI 48858
517-772-5055; 800-221-3791

DBM, INC.
634 Georgia Ave.
Palo Alto, CA 94306
415-494-2094

D. C. D. CO.
(division of Borg Enterprises)
1601 W. River Rd., N
Minneapolis, MN 55411
612-588-0551

DCM DATA PRODUCTS
1710 Two Tandy Center
Ft. Worth, TX 76102
817-870-2202; TLX: 756-916

DECATEK, INC.
4754-C N. Royal Atlanta Dr.
Tucker, GA 30084
404-493-7273

DECISION DATA COMPUTER CORP.
(division of Decision Industries Corp.)
400 Horsham Rd.
Horsham, PA 19044-0996
215-674-3300; 800-523-6529

DECISION DYNAMICS, INC.
696 McVey Ave.
Lake Oswego, OR 97034
503-636-4310; TLX: 910-333-0822 DECISION DYNAM

DECISION GRAPHICS, INC. (AL)
555 Sparkman Dr., Suite 1622
Huntsville, AL 35816
205-837-7710

DECISION GRAPHICS, INC. (CO)
P.O. Box 2776
Littleton, CO 80161
303-796-0341

DECISION IMAGES
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203-222-1974; TLX: 467-543 MASTER C1

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Sugar Land, TX 77487
713-438-3905

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Canoga Park, CA 91304
818-709-8700

DECISION SYSTEMS SUPPORT, INC.
31871 Via Punter
San Juan Capistrano, CA 92675
714-493-3639; TWX: 650-210-4414

DEERESOFT, INC.
2415 D S. Babcock, P.O. Box 1360
Melbourne, FL 32902
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DEFINICON SYSTEMS, INC.
31324 Via Colinas, Suite 108
Westlake Village, CA 91362
818-889-1646; TLX: 272-849 DV IUR

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270 Madison Ave.
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Redlands, CA 92373
714-793-7939

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612-881-4666; 1-800-328-4827, Ext. 1140

DELTA DATA SYSTEMS CORP.
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Trevose, PA 19047
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305-753-0840; 800-245-7282

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Tucson, AZ 85705
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DESERT TECHNOLOGIES
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DESIGN & DELIVERY
1668 Page
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415-626-2494

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West Chicago, IL 60185
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609-924-7111

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P.O. Box 925066
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1201 Cadillac Court
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408-946-7100; TLX: 299-823

THE DESTEK GROUP
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DETECTOR ELECTRONICS CORP.
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Minneapolis, MN 55438
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8344 Clairemont Mesa Blvd.
San Diego, CA 92111
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DEVELCON ELECTRONICS
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Dublin, CA 94568
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DFE ELECTRONIC DATA SYSTEMS
30 Cedar Pointe Loop, Suite 612
San Ramon, CA 94583
415-829-3925; TLX: 510-601-1723

D.G.M. CORP.
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Minneapolis, MN 55432
612-784-7499

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813-666-2330; 800-237-7669; TLX: 522-086 DGNLDT LKL

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Palo Alto, CA 94304
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East Lansing, MI 48823
517-351-1147

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Los Altos Hills, CA 94022
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944 Dorchester Ave.
Boston, MA 02139
617-288-7700; TWX: 710-333-1732

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Rockaway, NJ 07866
201-625-2299

DICKENS DATA SYSTEMS
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Norcross, GA 30071
404-448-6177

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Minneapolis, MN 55440-0246
612-885-3000; TLX: 290-837; 704-843

DIGI-DATA CORP.
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Jessup, MD 20794
301-498-0200; TLX: 87-580

DIGIBOARD, INC.
6751 Oxford St.
St. Louis Park, MN 55426
612-922-8055; 800-DIGIBRD

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New York, NY 10028
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Stamford, CT 06902
203-327-9210; TWX: 710-474-4583

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Alpharetta, GA 30201
404-442-4000; 1-800-241-IRMA, Ext. 11, 21, 31, 41, 51, 61; TLX: 261-375 DCAUR

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Pittsburgh, PA 15218
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1580 Rice Creek Rd.
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704-274-2569

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Mountain View, CA 94043
415-964-0707; TWX: 910-379-5034

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108 Water St.
Watertown, MA 02172
617-924-1680; 800-243-2333; TLX: 312-345

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60 Garden Court
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408-649-3896; TLX: 910-360-5001

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Chicago, IL 60615
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1122 9th St.
Altoona, PA 16601
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Boonton, NJ 07005-0239
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San Diego, CA 92123
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914-949-6058

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870 East 9400 South, Suite 103-B
Salt Lake City, UT 84070
801-572-6867

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Commerce, CA 90040
213-727-1227

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58053
Santa Clara, CA 95050
408-988-3472; 800-551-9000; TLX:
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1019 Mt. Pleasant Way
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EASTMAN KODAK CO.
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Rochester, NY 14650
716-724-4000

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307-856-4821; TLX: 910-949-4864

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Ann Arbor, MI 48104
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213-539-9140

EQUINOX DATA CORP.
150 Nickerson St.
Seattle, WA 98109
206-281-7327

ERDAS, INC.
430 Tenth St., NW, Suite N-206
Atlanta, GA 30318
404-872-7327; TLX: 706-327
ERDAS ATL

ERGO ELECTRONICS CO., LTD.
821 Rand Rd., Suite C
Arlington Heights, IL 60004
312-506-1122

ERICSSON INFORMATION SYSTEMS
Greenwich Office Park, Suite 1,
P.O. Box 2522
Greenwich, CT 06902
203-661-1666; TLX: 289-559
ERICSSON PC

ERICSSON PROGRAMATIC, INC.
1810 N. Glenville Dr., Suite 116
Richardson, TX 75081
214-680-9770; TLX: 293-284 ERIC UR

ERIS ENGINEERING ASSOCIATES
1418 Noah Rd.
North Brunswick, NJ 08902
201-846-8940

ERTL ASSOCIATES
823 Bradwell
Houston, TX 77062
713-488-8187; 713-960-2000

ESAB NORTH AMERICA, INC.
1941 Heath Pkwy., P.O. Box 2286
Ft. Collins, CO 80522
303-484-1244; TLX: 499-1462 ITT; 287-588 RCA

ESCA CORP.
13208 Northup Way
Bellevue, WA 98005
206-746-3000; TLX: 152-749

ESDU INTERNATIONAL, INC.
(subsidiary of International Thomson Organization)
1495 Chain Bridge Rd., Suite 200
McLean, VA 22101
703-734-7970; TLX: 901-980

ESE TECHNOLOGIES CORP.
482 Congress St., P.O. Box 572 DTS
Portland, ME 04101
207-773-7778

ESI
3200 Commonwealth Blvd.
Tallahassee, FL 32303
904-575-0179; TLX: 548-454

ESPRIT SYSTEMS, INC.
100 Marcus Dr.
Melville, NY 11747
516-293-5600; 800-645-4508; TLX: 221-666 ESPRI

ESSENTIAL SOFTWARE, INC.
P.O. Box 1003
Maplewood, NJ 07040
201-762-6965

EURO-SOFTWARE SERVICES, INC.
(division of ESS Software Trading)
13080 S. Belcher Rd., Suite B
Largo, FL 33543
813-536-8586; TWX: 510-600-7644
ESSI UQ

EUTECTIC ELECTRONICS, INC.
8608 Jersey Center
Raleigh, NC 27612
919-782-3000

EVANS NEWTON, INC. (ENI)
7650 E. Redfield Rd., Suite D-5
Scottsdale, AZ 85260
602-998-2777

EVEREST SOLUTIONS, INC.
3350 Scott Blvd., Bldg. 58
Santa Clara, CA 95051
408-986-8977

EVERETT/CHARLES MARKETING SERVICES, INC.
6101 Cherry Ave.
Fontana, CA 92335
714-899-2411; 800-443-1860

EVEREX SYSTEMS, INC.
47777 Warm Springs Blvd.
Fremont, CA 94539
415-498-1111; 800-821-0806; TLX: 510-100-0590 EVEREX

EVOLUTION
5809 Reeds Rd.
Mission, KS 66202
913-722-0065; 913-894-5770

EVOLUTION 1, INC.
6727 N. Black Canyon Frwy.
Phoenix, AZ 85015
602-433-2600

EWDP SOFTWARE, INC.
P.O. Box 40283
Indianapolis, IN 46240
317-872-8799

EXCELAN, INC.
2180 Fortune Dr.
San Jose, CA 95131
408-434-2300; TLX: 176-610

E-X-E SOFTWARE SYSTEMS
250 East 17th St., Suite I
Costa Mesa, CA 92627
714-662-2535

EXEC*U*STAT, INC.
2 Wall St., Research Park
Princeton, NJ 08540
609-924-9357

EXECUCOM SYSTEMS CORP.
9442 Capital of Texas Hwy., N,
Arboretum Plaza One
Austin, TX 78759
512-346-4980; 800-531-5038; 800-558-1390 (CD)

EXECUTIVE COMPUMETRICS, INC.
14810 S. Cicero Ave.
Oak Forest, IL 60452
312-687-1150

EXECUTIVE SYSTEMS, INC. (CA)
15300 Ventura Blvd., Suite 305
Sherman Oaks, CA 91403
800-634-5545

EXECUWARE, INC.
3640 Westgate Center Circle
Winston-Salem, NC 27103
919-760-3576

EXERGETIC SYSTEMS, INC.
P.O. Box 3271
Livermore, CA 94550
415-449-8100

EXIDE ELECTRONICS CORP.
3301 Spring Forest Rd.
Raleigh, NC 27604
919-872-3020; 800-554-3448; 800-554-3449 (NC); TLX: 289-968

EXIM SERVICES OF N.A., INC.
P.O. Box 5417
Clinton, NJ 08809
201-735-7640

EXOFT SOFTWARE SYSTEMS
10 Rockefeller Plaza, 8th Floor
New York, NY 10020
212-586-3232; TLX: 420-428

EXPERT-EASE SYSTEMS, INC.
1301 Shoreway Rd.
Belmont, CA 94002
415-593-3200

EXPERT SYSTEMS INTERNATIONAL
1700 Walnut St.
Philadelphia, PA 19103
215-735-8510

EXPERT SYSTEMS, INC.
868 W. End Ave., Suite 3A
New York, NY 10025
212-662-7206

EXPERTWARE, INC.
2685 Marine Way, Suite 1209
Mountain View, CA 94043
415-965-8921

EXPRESS SYSTEMS, INC.
1254 Remington
Schaumburg, IL 60195
312-882-7733

EXPRESSWARE CORP.
P.O. Box 230
Redmond, WA 98073
206-643-3503

EXSYS, INC. (NM)
P.O. Box 75158, Contract Station 14
Albuquerque, NM 87194
505-836-6676

EXTENDED APPLICATIONS, INC. (EAI)
600 N. Bell Ave., Carnegie Office Park
Pittsburgh, PA 15106
412-276-1172; TLX: 497-1488

EXTENDED SYSTEMS
6062 Morris Hill Lane, P.O. Box 4937
Boise, ID 83711
208-322-7163; TLX: 590-892

FACILITIES MANAGEMENT SYSTEMS, INC.
774 Post Rd.
Scarsdale, NY 10583
914-472-7358

FACIT, INC.
9 Executive Park Dr.
Merrimack, NH 03054
603-424-8000, Ext. 261; TLX: 697-2638 US FACIT MERR

FACTRON ELECTRONIC DESIGN AUTOMATION (EDA)
(division of Factron/Schlumberger)
269 Mt. Hermon Rd., Suite 101
Scotts Valley, CA 95066
408-438-2880

FAIRCOM
2606 Johnson Dr.
Columbia, MO 65203
314-445-6833

FALCON TECHNOLOGY
6644 South 196th St., Suite T-101
Kent, WA 98031
206-251-8282; 800-722-2510

FARADAY ELECTRONICS
749 N. Mary Ave.
Sunnyvale, CA 94086
408-749-1900; TLX: 706-738

FARGO ELECTRONIC SERVICES, INC.
7150 Shady Oak Rd.
Eden Prairie, MN 55344
612-941-9470; TWX: 910-576-2415

FAST FEEDBACK TECHNOLOGIES
1505 Aviation Blvd.
Redondo Beach, CA 90278
213-379-6100; TWX: 510-101-1310

FASTWARE, INC.
200 Freeway Dr., E
East Orange, NJ 07018
201-676-7963; 800-372-2345

MERVIN G. FAULKNER ASSOCIATES, LTD.
11 Mill St.
Hillsdale, Ontario, CD L0L 1V0
705-835-3419; 705-835-3528

FEIN-MARQUART ASSOCIATES, INC.
7215 York Rd.
Baltimore, MD 21212
301-821-5980; 800-CIS-USER; TLX: 910-380-1738

FEL COMPUTING
(division of FEL Industries, Inc.)
10 Main St., P.O. Box 72
Williamsville, VT 05362
802-348-7171

FEROX MICROSYSTEMS, INC.
1701 N. Fort Myer Dr., Suite 1205
Arlington, VA 22209
703-841-0800

FIBERCOM, INC.
3353 Orange Ave., NE, P.O. Box 11966
Roanoke, VA 24022-1966
703-342-6700; TLX: 883-099

FIELD COMPUTER PRODUCTS
4321 Canyon Valley Rd.
Diamond Springs, CA 95619
916-626-0787

FIFTH DIMENSION ENGINEERING, INC.
924 Cornell St., NE
Massillon, OH 44646
216-832-5090

FIFTH GENERATION SYSTEMS, INC.
7942 Picardy Ave., Suite B-350
Baton Rouge, LA 70809
504-767-0075; TWX: 910-350-6326

FILLMORE SYSTEMS, INC.
7200 York Ave., S, Suite 301
Minneapolis, MN 55435
612-835-1497

FINANCIAL DYNAMICS
P.O. Box 10898B
Arlington, VA 22210
703-524-0687

FINANCIAL MICRO-DATA, INC.
200 W. Palmetto Park Rd.
Boca Raton, FL 33432-3788
305-392-8663; 800-327-0175; Telex: 522-107

FINCH, INC.
136 East St.
Frederick, MD 21701
301-695-6560

FINDER INFORMATION TOOLS, INC.
1430 W. Peachtree St., NW, Suite 312
Atlanta, GA 30309
404-872-3488

THE FINOT GROUP
2390 El Camino Real, Suite 3
Palo Alto, CA 94306
415-322-6161

FIRST CAPITOL COMPUTER
1106 First Capitol Dr.
St. Charles, MO 63301
314-946-1968; 800-862-8948

FIRST CLASS PERIPHERALS
3579 Hwy. 50, E
Carson City, NV 89701
1-800-538-1307

FIRST SYSTEMS CORP.
865 Manhattan Beach Blvd.
Manhattan Beach, CA 90266
213-546-5581; TLX: 298-086 FIRSYS

FISCHER INNIS SYSTEMS CORP.
4175 Merchantile Ave.
Naples, FL 33942
813-643-1500; 1-800-237-4510

FIVE PACES SOFTWARE, INC.
9635 Wendell Rd.
Dallas, TX 75243
214-340-4933

FLAGSHIP TECHNOLOGY, INC.
2100 North Hwy. 360, Suite 1301
Grand Prairie, TX 75050
214-660-5414; TWX: 910-380-7027

FLAGSTAFF ENGINEERING
1120 Kaibab Lane
Flagstaff, AZ 86001
602-779-3341

FLEXUS INTERNATIONAL CORP.
P.O. Box 9119
Morristown, NJ 07960
201-895-4724

FLEXWARE
(division of Microfinancial Corp.)
15404 E. Valley Blvd.
Industry, CA 91746
818-961-0237; TLX: 650-210-8672 MCI

FLINDER SOFTWARE LABORATORIES
(division of Michael Flinder & Associates, Inc.)
169 Burnside
Tonawanda, NY 14150
716-693-0584

FLORIDA DATA CORP.
600D John Rodes Blvd.
Melbourne, FL 32935
305-259-4700; TLX: 56-210 FDC MELB

FLORIDA STATE UNIVERSITY COMPUTING CENTER
319 Educational Bldg.
Tallahassee, FL 32303
904-644-2764

FLOWERSOFT
564 Tara Court
Manteca, CA 95336
209-239-2116

FLOWNET
1845 Blairmore Court
Lexington, KY 40502
606-257-1941

JOHN FLUKE MANUFACTURING CO., INC.
P.O. Box C9090
Everett, WA 98206
206-342-6300; 1-800-426-0361; TLX: 152-662

FMJ, INC.
23520 Telo Ave., P.O. Box 5248
Torrance, CA 90510
213-325-1900

FOCUS GRAPHICS, INC.
10 Twin Dolphin Dr. R303
Redwood City, CA 94065
415-595-6920

FOGLE COMPUTING CORP.
357 E. Blackstock Rd., P.O. Box 5166
Spartanburg, SC 29304
803-574-4950; 800-845-7594

FOOKS MATHEWSON CO.
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Arlington, VA 22202
703-684-8284

FORD SOFTWARE
4845 Willowbend Blvd.
Houston, TX 77035
713-721-5205

FORESIGHT RESOURCES CORP.
932 Massachusetts
Lawrence, KS 66044
913-841-1121

FORMIC VIDEOTEX SYSTEMS
2299 Guenette St.
St. Laurent, Quebec, CD H2P 2H4
514-331-7577

FORMMAKER SOFTWARE, INC.
57 S. Schillinger Rd.
Mobile, AL 36608
205-633-FORM

FORMULA CONSULTANTS, INC.
100 S. Anaheim Blvd., Suite 200
Anaheim, CA 92805
714-778-1738

FORTH, INC.
111 N. Sepulveda Blvd., No. 300
Manhattan Beach, CA 90266
213-372-8493; TLX: 275-182 FORT UR

FORTRON CORP.
3225 Seldon Court
Fremont, CA 94538
415-490-8171; 800-821-9771; TLX: 559-291 FORTRON UD

FORT'S SOFTWARE
P.O. Box 396
Manhattan, KS 66502
913-537-2897

FORTUNE SYSTEMS CORP.
300 Harbor Blvd.
Belmont, CA 94002
415-593-9000; TLX: 176-865; TWX: 910-376-5001

FORWARD TECHNOLOGY, INC.
227 Devcon Dr.
San Jose, CA 95112-4211
408-436-1700; TWX: 910-338-2186

FOUNTAIN TECHNOLOGIES, INC.
519 8th Ave., 6th Floor
New York, NY 10018
212-714-9595

FOURCOLOR DATA SYSTEMS, INC.
7011 Malabar St.
Dayton, OH 45459
513-433-3780

FOX & GELLER, INC.
604 Market St.
Elmwood Park, NJ 07407
201-794-8883; TLX: 968-948

FOX RESEARCH, INC.
(subsidiary of ComGen Technology)
7016 Corporate Way
Dayton, OH 45459
513-433-2238; 800-358-1010; 800-782-1010 (OH); TLX: 650-207-9125 WUI

FOX SOFTWARE, INC.
27475 Holiday Lane
Perrysburg, OH 43551
419-874-0162

FRANKLIN COMPUTER CORP.
Rt. 73 & Haddonfield Rd.
Pennsauken, NJ 08110
609-488-0600; TLX: 136-546

FRANKLIN TELECOM
31320 Via Colinas, Suite 113
Westlake Village, CA 91362
818-706-1186

FRONT ROW SYSTEMS
P.O. Box 550346
Atlanta, GA 30355
404-231-0349

FRONTIER TECHNOLOGIES CORP.
3510 N. Oakland Ave., P.O. Box 11238
Milwaukee, WI 53211
414-964-8689; TLX: 550-680

FTCC MCDONNELL DOUGLAS INTERNATIONAL TELECOMMUNICATIONS CO.
90 John St.
New York, NY 10038
212-669-9700; 800-547-3822; TLX: 82-660

F-TEC (FEDERATED TECHNOLOGY AND ELECTRONICS CORP.)
15 Seeley Ave.
Piscataway, NJ 08854
201-562-1100; TLX: 833-291

FTG DATA SYSTEMS
10801 Dale St., Suite M-2, P.O. Box 615
Stanton, CA 90680
714-995-3900; 800-962-3900; 800-972-3900 (CA) TLX: 887-840

FUJITSU AMERICA, INC.
Storage & Peripheral Products Division
3055 Orchard Dr.
San Jose, CA 95134-2017
408-946-8777; 408-945-1318; TWX: 910-338-2193; TLX: 176-207

FULLER COMPUTER CORP.
19503 Ventura Blvd.
Tarzana, CA 91506
818-996-0330

FUTURE TECHNOLOGIES INTERNATIONAL, INC.
40 W. Blackwell St.
Dover, NJ 07801
201-328-0730; TWX: 650-271-3171 MCI

FUTURENET CORP.
9310 Topanga Canyon Blvd.
Chatsworth, CA 91311
818-700-0691

THE FUTURES GROUP
76 Eastern Blvd.
Glastonbury, CT 06033
203-633-3501

GALACTICOMM, INC.
11360 Tara Dr.
Plantation, FL 33325
305-472-9560

GALIL MOTION CONTROL, INC.
1928-A Old Middlefield Way
Mountain View, CA 94043
415-964-6494; TLX:171-409

GALILEO SOFTWARE
226 Buell St.
Madison, WI 53704
608-244-6062

JAMES GALLAGHER AND ASSOCIATES
16832-B Pacific Coast Hwy., P.O. Box 440
Sunset Beach, CA 90742
213-592-2109

GALLANT INTERNATIONAL CORP.
1200 S. Atlantic Blvd., Suite 106
Alhambra, CA 91803
818-284-6928; TLX: 371-6341 GALLANT

GAMMA PRODUCTIONS, INC.
710 Wilshire Blvd., Suite 609
Santa Monica, CA 90401
213-394-8622; TLX: 510-600-8273 GAMMA PRO SNM

GAMMALINK
2452 Embarcadero Way
Palo Alto, CA 94303
415-856-7421; TLX: 499-2108

GANDALF DATA, INC.
(subsidiary of Gandalf Technologies, Inc.)
1020 S. Noel Ave.
Wheeling, IL 60090
312-541-6060; TWX: 910-651-4951

GANESA GROUP CANADA, INC.
151 Savage Dr., P.O. Box 1087
Cambridge, Ontario, CD N1R 6S3
519-623-0770

GANTT SYSTEMS, INC.
44 Stelton Rd.
Piscataway, NJ 08854
201-968-9550

GARLAND PUBLISHING, INC.
136 Madison Ave.
New York, NY 10016
212-686-7492

GAS LIGHT SOFTWARE
5211 Yarwell
Houston, TX 77096
713-729-1257

GATEWAY COMMUNICATIONS, INC.
2941 Alton Ave.
Irvine, CA 92714
714-261-0762

GATEWAY DESIGN AUTOMATION CORP.
235 Great Rd.
Littleton, MA 01460
617-486-9701

GATEWAY INFORMATION TECHNOLOGIES, INC.
395-2K S. End Ave.
New York, NY 10280
212-466-4869

GATEWAY MICROSYSTEMS, INC.
9501 Capital of Texas Hwy., Suite 105
Austin, TX 78759
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GATEWAY SYSTEMS CORP.
2400 Science Pkwy.
Okemos, MI 48864
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P.O. Box 5307
Pittsburgh, CA 94565-0307
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GAZELLE SYSTEMS
42 N. University, Suite 10
Provo, UT 84601
801-377-1288

GCH SYSTEMS, INC.
599 N. Mathilda, Suite 235
Sunnyvale, CA 94086
408-733-2131; TWX: 910-997-4232 GCHSUNY

GEMIDEX
2117 Continental Lane
Madison, WI 53704
608-241-5050; 800-ENTRY PC

GEMINI INFORMATION SYSTEMS, INC.
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Englewood, CO 80155
303-773-1805

GEN/COMP, INC.
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Canton, MA 02021
617-828-2008

GENASYS CORP.
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Rockville, MD 20852
301-770-4600

GENERAL BUSINESS TECHNOLOGY, INC.
1891 McGaw Ave.
Irvine, CA 92714
714-261-1891; 800-521-1891

GENERAL CAD/CAM INC.
530 Franklin St., Suite 305
Schenectady, NY 12305
518-393-0022

GENERAL DATA SYSTEMS, LTD.
1520 Locust St.
Philadelphia, PA 19102
215-985-1780

GENERAL DATACOMM, INC.
Rt. 63
Middlebury, CT 06762-1299
203-574-1118; TLX: 99-204

GENERAL ELECTRIC INFORMATION SERVICES CO. (GEISCO)
(subsidiary of General Electric Co.)
401 N. Washington St.
Rockville, MD 20850
301-340-4000; 800-433-3683; TLX: 898-431

GENERAL INTERFACE SYSTEMS, INC.
12919 Alcosta Blvd.
San Ramon, CA 94583
415-866-9600

GENERAL MICRO SYSTEMS
P.O. Box 5330
Hopkins, MN 55343
612-944-0593

GENERAL OPTRONICS CORP.
2 Olsen Ave.
Edison, NJ 08820
201-549-9000; TWX: 710-997-9556

GENERAL PARAMETRICS CORP.
1505 Solano Ave.
Berkeley, CA 94707
415-524-3950

GENERAL PHYSICS CORP.
10650 Hickory Ridge Rd.
Columbia, MD 21044
301-964-6000; 301-982-1240

GENERAL POWER SYSTEMS
(division of ALS Corp.)
1400-D N. Baxter St.
Anaheim, CA 92806-1201
714-956-9321, Ext. 369; 800-854-3469; TLX: 182-283

GENERAL RESEARCH CORP.
7655 Old Springhouse Rd.
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703-893-5900

GENERIC COMPUTER PRODUCTS, INC.
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906-249-9801

GENERIC SOFTWARE, INC.
6 Lake Bellevue, Suite 203
Bellevue, WA 98005
206-462-1944

GENESIS MICROSYSTEMS
196 Castro St.
Mountain View, CA 94041
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Santa Ana, CA 92705
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GENIE TECHNOLOGIES CORP.
31117 Via Colinas, Suite 402
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818-991-6210; TLX: 658-233

GENIGRAPHICS CORP.
P.O. Box 591
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315-451-6600

GENOA SYSTEMS CORP.
73 E. Trimble Rd.
San Jose, CA 95131
408-945-9720

GENTIAN ELECTRONICS, LTD.
P.O. Box 1240
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613-836-3987

GENZLINGER ASSOCIATES, INC.
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Troy, MI 48098
313-879-7070

GEO BASED SYSTEMS, INC.
P.O. Box 13545
Research Triangle Park, NC 27709
919-361-5717; TLX: 294-116 BOST LX

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Concord, MA 01742
617-369-8304; TLX: 466-193

GEOGRAPHICS
1318 Alms Dr.
Champaign, IL 61820
217-351-8591

GEOMETRIC DATA FLOW, INC.
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Ontario, CA 91764-4453
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GEOSOFT CORP.
38 Park St.
Vernon, CT 06066
203-875-7782

GEOTRANS, INC.
250 Exchange Place, Suite A
Herndon, VA 22070
703-435-4400

GETC SOFTWARE, INC.
1269 Howe St.
Vancouver, BC, CD V6Z 1R3
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GIMPEL SOFTWARE
3207 Hogarth Lane
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G. W. GLASSCOCK
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Renton, WA 98058
206-271-0638

GLENCO ENGINEERING, INC.
3920 Ridge Ave.
Arlington Heights, IL 60004
312-392-2492; TLX: 493-7109

GLOBAL SOFTWARE CONSULTANTS, INC.
307 4th Ave., S, P.O. Box 15626
Minneapolis, MN 55415
612-757-2035; 1-800-328-8322, Ext. 601

GLOBAL TECHNOLOGIES CORP.
16572 E. Louisiana Dr.
Aurora, CO 80017
303-337-7758

GLOBAL TURNKEY SYSTEMS, INC.
4 North St.
Waldwick, NJ 07463
201-445-5050; 800-624-0041

GOLD HILL COMPUTERS
163 Harvard St.
Cambridge, MA 02139
800-242-LISP

GOLDATA COMPUTER SERVICES, INC.
2 Bryn Mawr Ave.
Bryn Mawr, PA 19010
215-525-1036

GOLDEN BOW SYSTEMS
2870 Fifth Ave., Suite 102
San Diego, CA 92103
619-298-9349

GOLDEN SOFTWARE, INC.
2055 Foothills Rd., P.O. Box 281
Golden, CO 80402
303-279-1021; 800-972-1021

GOLDEN STAR TECHNOLOGY, INC.
6980 Aragon Circle, Suite 2
Buena Park, CA 90620
714-739-0106; 714-739-8678; TLX: 510-600-1313 GOLDEN STAR

GOLDSTAR ELECTRONICS INTERNATIONAL, INC.
1050 Wall St., W
Lyndhurst, NJ 07071
201-460-8870; 800-562-0244; TLX: 219-170

GOLEMICS, INC.
2600 10th St.
Berkeley, CA 94710
415-486-8344; 415-486-1558

GOOD SOFTWARE CORP.
12900 Preston Rd., Suite 600
Dallas, TX 75230
214-239-6085

GORDIAN SYSTEMS, INC.
3512 W. Bayshore Rd.
Palo Alto, CA 94303
415-494-8414; TLX: 333-475

GORDON GROUP
2530 Berryessa Rd., Suite 321
San Jose, CA 95132
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GOTOLESS CONVERSION
P.O. Box 50068
Denton, TX 76206
214-221-0383

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Imaging & Graphics Division
1870 Lundy Ave.
San Jose, CA 95131
408-263-7155; TWX: 5-218-078 GOULD

GOULD, INC.
Recording Systems Division
3631 Perkins Ave.
Cleveland, OH 44114
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GRACON SERVICES, INC.
4632 Okemos Rd.
Okemos, MI 48864
517-349-4900

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GRAHAM SOFTWARE CORP.
4 Kingwood Place
Kingwood, TX 77339
713-359-1024

GRANADA SYSTEMS DESIGN, INC.
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212-686-6945; TLX: 425-052

GRAND MAX SOFTWARE CORP.
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503-226-0808; 503-226-0810 800-624-3285

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1290 Old Bayshore Hwy., Suite 169
Burlingame, CA 94010
415-342-1083; TLX: 176-823 JAM SUN BRGM

GRANNY'S OLD-FASHIONED SOFTWARE
Rt. 4, P.O. Box 216
Boone, NC 28607
704-264-6906

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Chicago, IL 60690
312-786-1330

GRAPHIC SYSTEMS, INC.
180 Franklin St.
Cambridge, MA 02139
617-492-1148

GRAPHWARE, INC.
P.O. Box 373
Middletown, OH 45042
513-424-6733

GRASP, INC.
RD 3, P.O. Box 233A
Troy, NY 12180
518-279-9414

GRAVIS COMPUTER PERIPHERALS, INC.
6894 Palm Ave.
Burnaby, BC, CD V5J 4M3
604-434-7274; TLX: 04-352-848

GREAT LAKES SOFTWARE SYSTEMS, INC.
2510 Capitol Ave., SW, Suite 203
Battle Creek, MI 49015
616-962-2017

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Denton, TX 76201
817-383-4434; 800-231-6880; TLX: 265-792 GSWST UR

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SYSDYNE Products Division
P.O. Box 30728
Oakland, CA 94604-6828
415-475-3100

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372 Coogan Way
El Cajon, CA 92020-1902
619-442-0205; 800-621-0852, Ext. 395

GREEN DIAMOND SYSTEMS
125 Blue Meadow Rd.
Belchertown, MA 01007
413-323-4401

GREENLEAF SOFTWARE, INC.
1411 LeMay Dr., Suite 101
Carrollton, TX 75007
214-446-8641; TLX: 559-068

GRID SYSTEM CORP.
2535 Garcia Ave., P.O. Box 7535
Mountain View, CA 94039-7535
415-961-4800; 800-222-GRID

GRIDCOMM, INC.
20 Old Ridgebury Rd.
Danbury, CT 06810
203-790-9077

GROUP L CORP.
481 Carlisle Dr.
Herndon, VA 22070
703-471-0030; 800-672-5300

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Silver Spring, MD 20906
301-384-6868

GRYPHON SYSTEMS
922 Grange Hall Rd., P.O. Box 755
Cardiff by the Sea, CA 92007
619-436-1455; TLX: 499-0529

GSS
9590 S.W. Gemini Dr.
Beaverton, OR 97005
503-641-2200; TLX: 499-4839 GSS UI

GTC TECHNOLOGIES, INC.
216 W. Florence Ave.
Inglewood, CA 90301
213-673-8574; TLX: 653-474

GTCO CORP.
7125 Riverwood Dr.
Columbia, MD 21046
301-381-6688; TLX: 898-471

GTEK, INC.
P.O. Box 289
Waveland, MS 39576
601-467-8048; 601-467-9019; TLX: 315-814-4835

GUARANTEED SOFTWARE
10044 S. DeAnza Blvd.
Cupertino, CA 95014
800-232-7222; 800-331-6223

GUARDIAN AUTOMATED SYSTEMS, INC.
420 Main St., Liberty Bldg., Suite 600
Buffalo, NY 14202
716-842-6410

GULF DATA, INC.
20100 Plummer St.
Chatsworth, CA 91311
818-886-9898; TWX: 910-494-1914; TLX: 294-572 GDI UR

GULFSTREAM MICRO SYSTEMS, INC.
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Boca Raton, FL 33431
305-994-6500; 800-443-0500; TWX: 910-380-0112

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West Paterson, NJ 07424
201-785-2498

G & Z SYSTEMS, INC.
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Eastchester, NY 10707
914-961-1613

H & A COMPUTER SYSTEMS
522 Washington
San Francisco, CA 94111
415-434-3517; 800-654-3215

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Van Nuys, CA 91406
818-994-1899

HAI SOFTWARE, INC.
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Fountain Valley, CA 92708
714-641-2844

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Joliet, IL 60435
815-725-0346

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6 Pearl Court
Allendale, NJ 07401
201-327-1444; TLX: 148-423

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Larkspur, CA 94939
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New Haven, CT 06520
203-776-5699; 800-351-4500

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Cohasset, MA 02025
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Charlotte, NC 28211
704-541-1380; TWX: 810-621-0380 PROTECH US

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Woodinville, WA 98072
206-487-1717; TLX: 317-899

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Ridgefield, CT 06877
203-438-9625; TWX: 710-467-0699

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Wichita, KS 67214
316-263-6120

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Ft. Lauderdale, FL 33309
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Twinsburg, OH 44087
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Provo, UT 84601
801-375-7221

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Somerville, MA 02143
617-492-0660

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Springboro, OH 45066
513-748-0390

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Cape Coral, FL 33910
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Commack, NY 11725
516-360-3827

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613-544-6035, Ext. 52

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HAWK SCIENTIFIC SYSTEMS, INC.
P.O. Box 316, Dept. 402
Bloomingdale, NJ 07403
201-592-5878

HAWKEYE GRAFIX
P.O. Box 1400
Oldsmar, FL 33557
813-786-8161; TLX: 671-56-620

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One Haworth Center
Holland, MI 49423
616-392-5961; TLX: 810-292-6154

HAYES MICROCOMPUTER PRODUCTS, INC.
P.O. Box 105203
Atlanta, GA 30348
404-449-8791; 404-441-1617

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Tiburon, CA 94920
415-435-0770

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15 Meridian Rd.
Eatontown, NJ 07724
201-542-9200; TLX: 132-457

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1495 Steiger Lake Lane, P.O. Box 5000
Victoria, MN 55386
612-443-2500; TWX: 910-578-3961

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Morton, IL 61550
309-266-5812

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Englewood Cliffs, NJ 07632
201-585-5009

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Canoga Park, CA 91304
818-407-1131; 800-468-0004; TLX: 880-695

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San Jose, CA 95128-3787
408-246-8300

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17025 Crescent Dr.
Southfield, MI 48076
313-559-5607

HENCO SOFTWARE, INC.
100 5th Ave.
Waltham, MA 02154
617-890-8670, Ext. 152; TLX: 261-807

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4127 S. Olathe Way
Aurora, CO 80013
303-690-6279; TLX: 494-0584

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Berkeley, CA 94710
415-540-6000

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Linden, NJ 07036
201-574-0300; TLX: 138-222

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West Warwick, RI 02893
401-822-0176

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P.O. Box 8276
Ann Arbor, MI 48107
313-994-3259

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Goshen, IN 46526
219-533-0571

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Melbourne, FL 32901
305-723-7731; TLX: 510-959-6013

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9723A Folsom Blvd., Suite 231
Sacramento, CA 95827
916-369-6606; TLX: 494-0010

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Roseville, CA 95678
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Los Angeles, CA 90045
213-216-9653

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Sunnyvale, CA 94086
408-730-4457; TLX: 315-076

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191 Eglinton Ave., E, Suite 302
Toronto, Ontario, CD M4P 1K1
416-485-5403

HFK SOFTWARE, INC.
Old Danbury Rd.
Danbury, NH 03230
617-259-0059

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1000 Wyckoff Ave.
Mahwah, NJ 07430
201-848-8000

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7274 Lampsom Ave.
Garden Grove, CA 92641
714-898-9511; TLX: 67-8486

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599 E. Colorado Blvd.
Pasadena, CA 91101
818-792-0808; TLX: 285-992 HWIN UR

HILCO SOFTWARE
11266 Barnett Valley Rd.
Sebastopol, CA 95472
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P.O. Box 941
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313-243-0576; 800-826-2760

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Los Gatos, CA 95030
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Flemington, NJ 08822
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Etters, PA 17319
717-938-4691

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11 Columbia Dr.
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603-882-5017; TLX; 953-061

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612-870-5200

HONEYWELL INFORMATION SYSTEMS ITALIA
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San Francisco, CA 94107
415-974-6116; 415-974-6144

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Page Springs Rd., P.O. Box 201
Cornville, AZ 86325
602-634-4507; 602-634-7517

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Cypress, TX 77429
713-890-5160; 800-847-5642

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South Burlington, VT 05401
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Houston, TX 77099
713-568-9900; TLX: 701-738 OCTACOMM HOU

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Austin, TX 78753
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617-456-3699

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603-882-5200

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Vienna, VA 22180
703-448-1442

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Ames, IA 50010
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Burtonsville, MD 20866
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Clarion, PA 16214
814-226-5600

THE HUGGY SYSTEM
P.O. Box 13033
St. Petersburg, FL 33733
813-525-0125

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Toronto, Ontario, CD M4Y 1P9
416-922-1937; TLX: 06-218072

HUMAN EDGE SOFTWARE CO.
1875 S. Grant St.
San Mateo, CA 94402-2669
415-573-1593; 800-624-5227

HUMAN SYSTEMS DYNAMICS
9010 Reseda Blvd., Suite 222
Northridge, CA 91324
818-993-8536; 800-451-3030

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445 Sherman Ave.
Palo Alto, CA 94306-0803
800-228-1249; TLX: 278-835 (HRI UR)

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4040 S. Memorial Pkwy., P.O. Box 12415
Huntsville, AL 35802
205-881-6005; TWX: 510-600-8258

HURRICANE SYSTEMS, INC.
926 Great Pino Dr.
Altamonte Springs, FL 32714
305-774-8888; 1-800-637-6060

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Tampa, FL 33606
813-254-5357

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817-565-0004

I.Q. COMPUTER CORP.
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Fort Worth, TX 76118
817-589-2000; TLX: 350-424 Johnson UD

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Chatsworth, CA 91311
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White Plains, NY 10604
914-765-1900

IBM PERSONALLY DEVELOPED SOFTWARE
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Wallingford, CT 06494
1-800-IBM PCSW

ICAM TECHNOLOGIES CORP.
1900 Sources Blvd.
Pointe Claire, Quebec, CD H9R 4Z3
514-697-8033

ICR FUTURESOFT
P.O. Box 1446 PD
Orange Park, FL 32073
904-269-1918

ICS
(division of Action Instruments)
5466 Complex, Suite 208
San Diego, CA 92123
619-279-0084; 800-523-2320; TWX: 910-335-2030

ICS, INC.
ELECTRO-PAC Division
520 Interstate Rd.
Addison, IL 60101
312-543-6200; TWX: 910-991-5945

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6175 Shamrock Court
Dublin, OH 43017
614-766-0440; TWX: 810-482-1049

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Fairfield, IA 52556
515-472-4507

IDEASSOCIATES, INC.
29 Dunham Rd.
Billerica, MA 01821
617-663-6878; TLX: 497-9780

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Salt Lake City, UT 84115
801-466-9093; 1-800-438-6161

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Hauppauge, NY 11788
516-582-8828

ILC DATA DEVICE CORP.
105 Wilbur Place
Bohemia, NY 11716
516-567-5600; TLX: 510-228-7324

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1930 Hayselton Dr.
Jefferson City, MO 65101
314-635-3417

IMAGE AMPLIFICATION, INC.
30 Chapin Rd., P.O. Box 699
Pine Brook, NJ 07058
201-882-0584

IMAGE COMPUTER SYSTEMS
P.O. Box 647
Avon, CT 06001
203-678-8771

IMAGE TECHNOLOGY, INC.
5995 S. St. Paul Way
Littleton, CO 80121
303-794-2074

IMAGEN CORP.
2650 San Tomas Expwy.
Santa Clara, CA 95052
408-986-9400

IMAGIMEDIA TECHNOLOGIES, INC.
7650 Geary Blvd.
San Francisco, CA 94121
415-387-0263

IMAGING TECHNOLOGY, INC.
600 W. Cummings Park
Woburn, MA 01801
617-938-8444; TLX: 948-263

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Cupertino, CA 95014
408-255-5500

IMPACC ASSOCIATES, INC.
P.O. Box 93
Gwynedd Valley, PA 19437
215-699-7235

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San Antonio, TX 78216
512-525-8911

IMSI
1299 Fourth St., Penthouse
San Rafael, CA 94901
800-222-4723; 800-562-4723 (CA)

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Houston, TX 77042-3020
713-782-6060; 800-222-IMSL; TLX: 791-923 IMSL INC HOU

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P.O. Box 809, Imtec Lane
Bellows Falls, VT 05101
802-463-9502; TLX: 510-600-4242

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517-G Acorn St.
Deer Park, NY 11729
516-667-1331; TLX: 475-8122

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210 S. Third St.
Laramie, WY 82070-0920
307-742-8213; TLX: 910-949-4944; 800-4-INSITU

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(subsidary of McDonnell Douglas Corp.)
8260 Greensboro Dr.
McLean, VA 22102
703-883-3800; 800-368-4626

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Wheeling, IL 60090
312-459-8881

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Brookline, MA 02146
617-731-6234

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402-476-1300

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617-491-2100; 617-497-4473; 800-227-1414; 800-442-1832; TLX: 910-380-7014 INTECH

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Oakland, CA 94607
415-268-1631

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Shelbyville, IN 46176
317-398-6643

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Ottawa, Ontario, CD K1Z 7M5
613-728-0016

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1275 Hammerwood Ave.
Sunnyvale, CA 94089
408-743-4300; TWX: 910-339-9369

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New Bern, NC 28560
919-637-2471

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100 Jericho Quadrangle
Jericho, NY 11753
516-938-6600; 800-228-MTOS; TLX: 429-808 (ITT)

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10 Gerard Ave., Suite 209, P.O. Box 57
Timonium, MD 21093-0057
301-561-3155; TLX: 710-232-1857

INDUSTRIAL TECHNOLOGY GROUP
P.O. Box 10715
Mehlville, MO 63129
314-892-8171

INDUSTRIAL VISION SYSTEMS
452 Chelmsford St.
Lowell, MA 01851
617-459-9000; TLX: 820-122

INDUSTRY SOFTWARE SALES, INC.
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901-767-3759

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Burnaby, BC, CD V5C 5N1
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5301 Covington Hwy.
Decatur, GA 30035
404-981-4520; TLX: 261-337 ACTA UR

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40 High St.
North Andover, MA 01845
617-681-0600, Ext. 771; TLX: 710-342-0666

INFISY SYSTEMS, INC.
787 Bradfield
Houston, TX 77060
713-820-5954

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Framingham, MA 01701
617-875-7511

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Irvine, CA 92715
714-851-8975

INFOCAP
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Westlake Village, CA 91362
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INFOCENTRE, LTD.
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Mississauga, Ontario, CD L4V 1R8
416-678-1841; 1-800-387-3932

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19 Union Sq., W, 6th Floor
New York, NY 10003
212-741-9411

INFOCOM, INC.
125 Cambridge Park Dr.
Cambridge, MA 02140
617-492-6000

INFOGRAPHICS, INC.
P.O. Box 7930
Newport Beach, CA 92658-7930
714-474-1530

INFOLOGIC, INC.
Monmouth Mall, P.O. Box 778
Eatontown, NJ 07724
201-544-1292

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1500 Stanley St., Suite 430
Montreal, Quebec, CD H3A 1R3
514-849-8752; TLX: 05-560518 INFOCORP MTL

INFOMAINT/HEALTHWARE INC.
1065 N. George Mason Dr.
Arlington, VA 22205
703-527-1476

INFOMAX CORP.
P.O. Box 1369
Tualatin, OR 97062
503-692-6189

INFOMETRIX, INC.
2200 Sixth, Suite 833
Seattle, WA 98121
206-441-4696; TLX: 152-687

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652-G Beal Pkwy.
Ft. Walton Beach, FL 32548
904-862-5262

INFORMATION ANALYSIS SYSTEMS CORP.
2 Brookside
Mansfield Center, CT 06250
203-429-1691

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New York, NY 10001
212-736-4433; TLX: 661-558 INFOBLD

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Washington, DC 20005
202-628-4400

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15 Albin Rd.
Stamford, CT 06902
203-327-9868

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(a subsidiary of Battelle)
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Dublin, OH 43017-1396
614-761-7300; 800-DATA MGT; TLX: 245-454

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Metairie, LA 70002
504-832-3186

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358 Grandview Rd.
Newark, OH 43055
614-349-8644

INFORMATION PROCESSING, INC.
427 Whooping Crane Loop, Suite 1825
Altamonte Springs, FL 32701
305-331-5200; TWX: 810-853-5033

INFORMATION RESEARCH ASSOCIATES
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Austin, TX 78705
512-474-4526; TLX: 887-410

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150 N. Clinton St.
Chicago, IL 60606
312-726-1221

INFORMATION RESOURCES, INC. (NY)
70 Bourndale, S, P.O. Box W
Manhasset, NY 11030
516-365-7629

INFORMATION STORAGE INC.
2768 Janitell Rd.
Colorado Springs, CO 80906
303-579-0460; TLX: 821-889

INFORMATION TECHNOLOGIES, INC.
7850 E. Evans Rd.
Scottsdale, AZ 85260
602-998-1033; 800-431-3460

INFORMATION TECTONICS
9004 Greentree Commons
Marlton, NJ 08053
609-596-2244

INFORTEXT SYSTEMS, INC.
1067 E. State Pkwy.
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851 Parkview Blvd.
Pittsburgh, PA 15215
412-782-0384

KONTRON ELECTRONICS
1230 Charleston Rd.
Mountain View, CA 94039-7230
415-965-7020; 800-227-8834

KOS & ASSOCIATES, INC.
McKnight Park Dr., Suite 203
Pittsburgh, PA 15237
412-367-7444

KPG, INC.
6075 Barfield Rd., NE,
Cosmopolitan Centre, Suite 204
Atlanta, GA 30328
404-252-7366; TLX: 708-491

KRAFT SYSTEMS CO.
450 W. California Ave.
Vista, CA 92083
619-724-7146

KRONOS, INC.
62 Fourth Ave.
Waltham, MA 02154
617-890-3232; 800-225-1561; 800-325-1060 (MA)

K-TALK COMMUNICATIONS
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Columbus, OH 43214
614-459-9711; 800-848-0773

KURTA CORP.
4610 South 35th St.
Phoenix, AZ 85040
602-276-5533

KUSTOM ELECTRONICS, INC.
Path Bank Division
8320 Nieman Rd.
Lenexa, KS 66214
913-492-1400; 800-255-6311

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225 West 34th St., Suite 2114
New York, NY 10122
212-239-4840; TLX: 750-191 KWWA

KYOCERA INTERNATIONAL, INC.
8611 Balboa Ave.
San Diego, CA 92123
619-576-2600

LA PINE TECHNOLOGY
182 Topaz St.
Milpitas, CA 95035
408-262-7077; TLX: 171-693

LABORATORY MICROSYSTEMS, INC.
P.O. Box 10430
Marina del Rey, CA 90295
213-306-7412

LABORATORY SYSTEM CONSULTANTS, INC.
P.O. Box 74-1353
Dallas, TX 75374-1353
214-902-0944

LABORATORY SYSTEMS GROUP, INC.
5716 North 10th St.
Phoenix, AZ 85014
602-264-5913

LABORATORY TECHNOLOGIES CORP.
255 Ballardvale St.
Wilmington, MA 01887
617-657-5400

LABSOFT
(division of CRYO Resources, Ltd.)
701 Seventh Ave, 5th Floor
New York, NY 10036
212-840-1233

LAGUNA LABORATORIES, INC.
1300 Normandy Place
Santa Ana, CA 92705
714-835-9100

LAHEY COMPUTER SYSTEMS, INC.
P.O. Box 6091
Incline Village, NV 89450-6091
702-831-2500

LAKE AVENUE SOFTWARE
77 N. Oak Knoll, Suite 105
Pasadena, CA 91101
818-792-1844

LAKONTEK, INC.
2385 S. Clinton Ave.
South Plainfield, NJ 07080
201-755-7680

LAMARCHE MANUFACTURING CO.
106 Bradrock Dr.
Des Plaines, IL 60018
312-299-1188; TLX: 282-526

LAMBERT LOGICAL DESIGN
513 Wilshire Blvd., Suite 228A
Santa Monica, CA 90401
213-395-2420

LANCORE TECHNOLOGIES, INC.
31300 Via Colinas
Westlake Village, CA 91362
818-991-5100; 800-LANCORE; TLX: 532-044

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10418 E. Tanglewood Rd.
Franktown, CO 80116
303-688-8160

LANDRUM SOFTWARE, INC.
P.O. Box 842
Palm City, FL 33490
305-286-1324

LANG-ALLAN, INC.
2431 Aloma Ave., Suite 103
Winter Park, FL 32792
305-677-1539

LANGUAGE RESOURCES, INC.
4885 Riverbend Rd.
Boulder, CO 80301
303-449-8087; TLX: 499-2706

LARK SOFTWARE
131 N. Leverett Rd.
Leverett, MA 01054
413-773-8687

LASALLE MICRO
1350 Remington Rd., Suite W
Schaumburg, IL 60195
800-882-5171

LASER DIGITAL, INC.
1024 Morse Ave.
Sunnyvale, CA 94086
408-747-1966

LASERMASTER, LTD.
7156-7160 Shady Oak Rd.
Eden Prairie, MN 55344
612-944-6069

LASSEN SOFTWARE, INC.
P.O. Box 1190
Chico, CA 95927
916-891-6957

LATTICE, INC.
22 W. 600 Butterfield Rd.
Glen Ellyn, IL 60137
312-858-7950; TWX: 910-291-2190

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275 Slater St., Suite 1404
Ottawa, Ontario, CD K2P 5H9
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LAWSON LABS, INC.
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Columbia Falls, MT 59912
406-387-5355

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Cambridge, MA 02139
617-547-4738; 800-437-0036

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Santa Fe Springs, CA 90670
213-944-0916; TWX: 910-586-1381

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Canton, MA 02021
617-828-8150; 800-343-6833

LEADING EDGE SOFTWARE PRODUCTS, INC.
21 Highland Circle
Needham, MA 02194
617-449-4655; 800-343-3436

LEARNING AUTOMATION, INC.
80 Taylor Rd.
Littleton, MA 01460
617-486-8400

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1685 Chevron Way
Atlanta, GA 30338
404-394-8125

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2720 Greene Ave.
Omaha, NE 68147-1939
402-733-7600; 800-532-2844; TLX: 510-600-5837 LEBAUGH SC

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304 East 45th St.
New York, NY 10017
212-661-4366; TLX: 263-1635 MCI

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7075 Flying Cloud Dr.
Minneapolis, MN 55344
612-828-0300; 800-328-3998; TWX: 910-576-1690

LEGACY TECHNOLOGIES, LTD.
4817 North 56th St.
Lincoln, NE 68504
402-466-8108; 800-228-7257

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2214 Michigan Ave., Suite G
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817-274-0089

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503 Fifth Ave.
Indialantic, FL 32903
305-729-9046

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McDowell, VA 24458
703-396-3345

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San Jose, CA 95132
408-251-7058

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(division of Adage, Inc.)
755 Middlesex Tpke.
Billerica, MA 01865
617-663-8550; 800-472-4747; TWX: 710-347-1574

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2800 Lockheed Way
Carson City, NV 89701
702-883-7611; TWX: 910-395-6051 LF CARS

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Battleground, WA 98604
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P.O. Box 290414
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One Fenimore Rd.
Bayport, NY 11705
516-472-2111

LIFEBOAT ASSOCIATES
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New York, NY 10028
212-860-0300

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411 Pacific St.
Monterey, CA 93940
408-373-4718; TLX: 176-786 LTS-MNTY

LIMICON, INC.
144 Hampton Ave.
Toronto, Ontario, CD M4K 2Z1
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P.O. Box 3604
Ann Arbor, MI 48104
313-971-9733

LINDE TECHNOLOGY, INC.
8820 S. Sepulveda Blvd., Suite 204
Los Angeles, CA 90045
800-227-2400; 800-227-2666 (CA)

LINEAR SYSTEMS, LTD.
1760 Sargent Ave.
Winnipeg, Manitoba, CD R3H 0C7
204-783-2228; TLX: 075-7741

LINK COMPUTER, INC.
4126 E. La Palma Ave.
Anaheim, CA 92807
714-993-6976

LINK DATA, INC.
2005 Rt. 22
Union, NJ 07083
201-964-6090; TLX: 130-784

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Waltham, MA 02154
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514-933-4918

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Los Gatos, CA 95030
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12500 Beatrice St.
Los Angeles, CA 90066
800-634-1967; 800-821-7807 (CA); TLX: 295-236

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25 Acorn Park
Cambridge, MA 02140
617-864-5770; TLX: 921-436

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100 Riggenbach Rd.
Fall River, MA 02720
617-676-8571; TLX: 165-1490 RELAY WFRW

LOCAL DATA, INC.
2771 Toledo St.
Torrance, CA 90503
213-320-7126; TLX: 182-518

LOCUS COMPUTING CORP.
3330 Ocean Park Blvd.
Santa Monica, CA 90405
213-452-2435

LODGE ELECTRONICS
P.O. Box 338
Streamwood, IL 60103
312-837-6553

LOGIC, INC.
9330 LBJ Frwy., Suite 600
Dallas, TX 75243-3429
214-238-1898; 800-527-2323

LOGICAL BUSINESS SYSTEMS
290 Santa Ana Court
Sunnyvale, CA 94086
408-737-1911; TLX: 278-997 LBMC UR

LOGICAL DESIGN CORP.
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Farmington Hills, MI 48024
313-474-2300

LOGICOM TECHNOLOGY, INC.
560 Forbes Blvd.
South San Francisco, CA 94080
415-952-1512

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1000 Finch Ave., W, Suite 600
Toronto, Ontario, CD M3J 2V5
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555 Dorchester, W, Suite 1616
Montreal, Quebec, CD H2Z 1B1
514-397-9631

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Redwood City, CA 94063
415-365-9852

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55 Wheeler St.
Cambridge, MA 02138
617-576-0666

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Reliance Comm/Tec Division
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Lorain, OH 44052
216-288-1122; TLX: 980-505

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1200 Ave. H, East
Arlington, TX 76011
800-433-5310

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145 Keep Court
Elyria, OH 44035-2214
216-327-5050; 800-222-2600, Ext. 265; TLX: 384-868 LORTEC UPS UD

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55 Cambridge Pkwy.
Cambridge, MA 02142
617-577-8500; TLX: 948-649

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18 Broad St.
Charleston, SC 29401
803-577-7838

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150 Industrial Ave., E
Lowell, MA 01852
617-459-4930

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707 Laurel St.
Menlo Park, CA 94025
415-329-8400

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Sunnyvale, CA 94086
408-737-8575

LUGARU SOFTWARE, LTD.
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Pittsburgh, PA 15217
412-421-5911

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110 Bi-County Blvd.
Farmingdale, NY 11735
516-752-1411

M/A-COM INFORMATION SYSTEMS, INC.
(division of M/A-COM, Inc.)
5515 Security Lane
Rockville, MD 20852
301-984-3636; 800-638-6712

M/A-COM TELECOMMUNICATIONS DIVISION
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619-457-2340; 800-626-6640; TLX: 910-337-1277

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2015 O'Toole Ave.
San Jose, CA 95131
408-435-0596; 800-543-6546; 800-223-3276 (CA)

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3323 Pearl St.
Santa Monica, CA 90405
213-452-5520

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866 3rd Ave.
New York, NY 10022
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815 Colorado Blvd.
Los Angeles, CA 90041
213-258-9111

MACOLA, INC.
181 S. Main St., P.O. Box 485
Marion, OH 43302
614-382-5991; 800-468-0834; 800-468-0833 (OH); TLX: 510-600-2104

MACRO SYSTEK, INC.
3350 Scott Blvd., Bldg. 6501
Santa Clara, CA 95054
408-748-1211; TLX: 494-8311

MACROTECH INTERNATIONAL CORP.
9551 Irondale Ave.
Chatsworth, CA 91311
818-700-1501; 800-824-3181; TLX: 910-997-0653

MAD INTELLIGENT SYSTEMS, INC.
2950 Zanker Rd.
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408-943-1711; TLX: 171-827 MAD

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Norcross, GA 30092-3796
404-446-6611

MAGNA COMPUTER CORP.
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Manchester, NH 03103
603-622-3699

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Bloomfield, CT 06002
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MAGNETIC MEMORY CORP.
1224 Tenth St.
Berkeley, CA 94710
415-527-4511; TLX: 297-741

MAGNOLIA MICROSYSTEMS, INC.
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Seattle, WA 98199
206-285-7266

MAGNUM COMPUTER, INC.
ComX Division
12090 S.W. Garden Place
Portland, OR 97223
503-684-8000

MAI BASIC FOUR, INC.
14101 Myford Rd.
Tustin, CA 92680
714-731-5100; 800-854-3194; TLX: 429-566

MAINSTAY SOFTWARE CORP.
1745 Stout St., Suite 201
Denver, CO 80202
303-298-8961

MAINSTREET COMPUTER CORP.
Mainstreet Computer
1025 Main St.
Bastrop, TX 78602
800-426-6246; 800-252-3404 (TX); TLX: 510-600-7038
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MAINTENANCE AUTOMATION CORP.
400 S. Dixie Hwy.
Hallandale, FL 33179
305-454-9997

MAJIC SOFTWARE, INC.
224 S. Salisbury, Suite C4
West Lafayette, IN 47906
317-743-0610

MAJOR MICRO SYSTEMS, INC.
10003 Hart
Huntington Woods, MI 48070
313-350-9177

MAJOR SOFTWARE
66 Sylvian Way
Los Altos, CA 94022
415-941-1924

MANAGEMENT GRAPHICS, INC.
1401 East 79th St.
Minneapolis, MN 55420
612-854-1220; TLX: 510-600-1953

MANAGEMENT REPORTING RESOURCES, INC.
525 Jacoby, Suite 100
San Rafael, CA 94901
415-485-0555

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Albuquerque, NM 87110
505-255-8611; TLX: 910-997-5519 MSI

MANAGEMENT TECHNOLOGY, INC.
P.O. Box 6075
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303-355-1452

MANDAT-INFO TECH
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Sidney, BC, CD V8L 3Y3
604-385-3532; 800-663-8339

MANNESMANN TALLY
8301 South 180th St.
Kent, WA 98032
206-251-5524, Ext. 5645; TLX: 27-7144

MANSFIELD SOFTWARE GROUP, INC.
P.O. Box 532
Storrs, CT 06268
203-429-8402

MANUFACTURING AND CONSULTING SERVICES, INC.
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Irvine, CA 92718
714-951-8858; TWX: 910-595-2790

MANX SOFTWARE SYSTEMS, INC.
P.O. Box 55
Shrewsbury, NJ 07701
800-221-0440; 201-542-2121

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260 Sheridan Ave., Suite 200
Palo Alto, CA 94306
415-326-7511; TWX: 910-373-2013

MARCSOFT SOFTWARE
111 Circle Way, P.O. Box 419
Lake Jackson, TX 77566
409-297-0727; 409-265-1669

MARCUS SYSTEMS
P.O. Box 440113
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713-556-5365

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222 Third St.
Cambridge, MA 02142
617-576-2760, Ext. 22; TLX: 499-6346 MOTU

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Seattle, WA 98105
206-527-9605

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Chesapeake, VA 23320
804-420-3627

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1075 Morse Ave.
Schaumburg, IL 60193
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San Rafael, CA 94903
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914-592-4646; 800-431-7616

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Mountain View, CA 94043
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914-365-0190; TLX: 178-903

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Dorval, Quebec, CD H9P 1H6
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Symbol Systems Division
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Pittsburgh, PA 15238
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MAXI-SWITCH CO.
(subsidiary of Eeco, Inc.)
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Minneapolis, MN 55433
612-755-7660; TWX: 910-576-2690

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South El Monte, CA 91733
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Pittsburgh, PA 15238
412-963-8100

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460 E. Semoran Blvd.
Casselberry, FL 32707
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713-445-5544

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MCDONNELL DOUGLAS INFORMATION SYSTEMS GROUP
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McDonnell Blvd., P.O. Box 516
St. Louis, MO 63166
314-232-9551; TLX: 910-764-3790

MCDONNELL DOUGLAS PROFESSIONAL SERVICES CO.
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St. Louis, MO 63166
314-232-1268; 800-325-1087

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1133 19th St., NW
Washington, DC 20036
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MCI INTERNATIONAL
International Dr.
Rye Brook, NY 10573
914-937-3444; 800-221-7902; 800-826-6300 (NY); 800-624-2211 (CA); TLX: 668-772

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2465 W. Chicago
Rapid City, SD 57702
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MCT
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Santa Monica, CA 90404
213-829-3641

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Bala Cynwyd, PA 19004
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Miami, FL 33143
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Orchard Park, NY 14127
716-662-6611

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(a Mohawk Data Sciences Co.)
4142 Point Eden Way
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415-887-7777; 800-227-1894; TWX: 910-383-0249

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(subsidiary of The Mead Corp.)
P.O. Box 933
Dayton, OH 45401
513-865-6800; 800-227-4908

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MECTEL INTERNATIONAL, INC.
(division of American Mitac Corp.)
3385 Viso Court
Santa Clara, CA 95054
408-988-7510; 800-523-8354

MEDIA CYBERNETICS, INC.
8484 Georgia Ave., Suite 200
Silver Spring, MD 20910
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MEDIA SYSTEMS TECHNOLOGY, INC.
16812 Hale Ave.
Irvine, CA 92714-5095
714-863-1201; TLX: 499-2344 MST IRVCA

MEDIA TECHNOLOGY INTERNATIONAL
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Manhattan Beach, CA 90266-0069
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MEDIAX INTERACTIVE TECHNOLOGIES
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Westport, CT 06880
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MEDICAL SOFTWARE CONSORTIUM
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St. Peters, MO 63376
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2013 Wells Branch Pkwy., Suite 201
Austin, TX 78728
512-251-5543; 800-562-9700

MEGA CADD, INC.
401 Second Ave., S
Seattle, WA 98104
206-623-6245; 800-223-3175

MEGA-OMEGA SYSTEMS, INC.
5217 Ross Ave., Suite 710, LB 122
Dallas, TX 75206
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MEGACALC
3750 Peacock Court, Bldg. 1
Santa Clara, CA 95051
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1075 Broken Sound Pkwy., NW
Boca Raton, FL 33431
305-994-6700; TLX: 525-124

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21040 Victory Blvd.
Woodland Hills, CA 91367
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MEGAVISION, INC.
P.O. Box 60158
Santa Barbara, CA 93160
805-964-1400

MEGAWEST SYSTEMS, INC.
140 West 2100 South, Suite 126
Salt Lake City, UT 84115
801-487-0788

MEIRICK, INC.
Power Systems Division
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Frisco, CO 80443
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MELARD TECHNOLOGIES, INC.
5 Westchester Plaza
Elmsford, NY 10523
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MEMODYNE CORP.
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Needham Heights, MA 02194
617-444-7000

MERIDIAN SOFTWARE SYSTEMS, INC.
23141 Verdugo Dr., Suite 105
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714-380-9800

MERIDIAN TECHNOLOGY, INC.
1101 Dove St., Suite 120
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714-476-2224

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(division of BCC, Inc.)
251 Merrill St.
Birmingham, MI 48011
313-645-5280

MERRIMACK MAGNETICS CORP.
(subsidiary of HCC Industries)
121 Hale St.
Lowell, MA 01851
617-458-1487; TLX: 710-343-5670

MET-CHEM INTERNATIONAL CORP.
2911 Dixwell Ave.
Hamden, CT 06518
203-248-3212

META-SOFTWARE
50 Curtner Ave., Suite 16
Campbell, CA 95008
408-371-5100; TWX: 910-350-4928

META SYSTEMS, LTD.
315 E. Eisenhower Pkwy., Suite 200
Ann Arbor, MI 48104
313-663-6027; TLX: 810-223-2408

METAFILE INFORMATION SYSTEMS, INC.
401 16th St., SE
Rochester, MN 55904
507-289-8967

METAPATH, INC.
222 Lincoln Center Dr.
Foster City, CA 94404
415-345-7700; 800-445-0200; 800-445-0201 (CA); TLX: 650-280-2598

METASOFT CORP.
7400 W. Detroit St., Suite 190
Chandler, AZ 85226
602-961-0003; 800-621-1908

METAWARE, INC.
903 Pacific Ave., Suite 201
Santa Cruz, CA 95060
408-429-6382

METCUT RESEARCH ASSOCIATES, INC.
11240 Cornell Park Dr.
Cincinnati, OH 45242
513-489-6688

METHEUS CORP.
P.O. Box 959
Hillsboro, OR 97124
503-640-8000; TLX: 469-092

METIER MANAGEMENT SYSTEMS, INC.
5884 Point West Dr.
Houston, TX 77036
713-988-9100; TLX: 774-367 METIER HOU

METRABYTE CORP.
440 Myles Standish Blvd.
Tauton, MA 02780
617-880-3000; TLX: 503-989

METRO SOFTWARE, INC.
2509 N. Campbell Ave., Suite 214
Tucson, AZ 85719
602-299-7313; 800-621-1137; TLX: 709-234

MFE ASSOCIATES
P.O. Box 851
Amherst, MA 01004
413-549-7626

MFJ ENTERPRISES, INC.
921 Louisville Rd.
Starkville, MS 39759
601-323-5869; TLX: 534-590 MFJ STKV

MGLOBAL
1601 Westheimer, Suite 201
Houston, TX 77006
800-257-8052

M/H GROUP
222 W. Adams St.
Chicago, IL 60606
312-443-1222

MICAPP, INC.
16956-230th Ave.
Big Rapids, MI 49307
616-796-6637

MICARY ELECTRONICS, LTD.
4001A 19th St., NE, Suite 1
Calgary, Alberta, CD T2E 6X8
403-250-1437

MICHTRON, INC.
576 S. Telegraph Rd.
Pontiac, MI 48053
313-334-5700; TLX: 350-409

MICOM/INTERLAN, INC.
(subsidiary of MICOM Systems, Inc.)
155 Swanson Rd.
Boxboro, MA 01719
617-263-9929; 800-LAN TALK

MICOM SYSTEMS, INC.
4100 Los Angeles Ave.
Simi Valley, CA 93062
805-583-8600; 800-MICOM-US

MICRO ALLIANCE CORP.
211 3rd St.
Pacific Grove, CA 93950
408-375-2802

MICRO ANALYST, INC.
P.O. Box 15003
Austin, TX 78761
512-926-4527

MICRO-AP
7033 Village Pkwy., Suite 206
Dublin, CA 94568
415-828-6697

MICRO ARCHITECT, INC.
6 Great Pines Ave.
Burlington, MA 01803
617-273-5658

MICRO-ART PROGRAMMERS
614 Alameda Padre Serra
Santa Barbara, CA 93103-2137
805-962-0922

MICRO ASSOCIATES, INC.
2349 Memorial Blvd.
Port Arthur, TX 77640
409-983-2051

MICRO BUSINESS APPLICATIONS, INC.
12281 Nicollet Ave., S
Burnsville, MN 55337
612-894-3470; 800-MBA-SALE

MICRO BUSINESS SYSTEMS, INC. (NY)
65 Weber Ave.
Malverne, NY 11565
516-593-8682

MICRO CONCEPTS, INC.
4307 Arden Dr.
Ft. Wayne, IN 46804
219-432-8088

MICRO CONNECTIONS, INC.
One Park Ave., 4th Floor
New York, NY 10016

MICRO CONTROL SYSTEMS
27 Hartford Tpke.
Vernon, CT 06066
203-647-0220

MICRO DATA BASE SYSTEMS, INC.
P.O. Box 248
Lafayette, IN 47902
317-463-2581; 800-344-5832; TLX: 209-147 ISE UR

MICRO DECISIONWARE, INC.
2995 Wilderness Place
Boulder, CO 80301
303-443-2706

MICRO-DESIGN
6301 Manchaca
Austin, TX 78745
512-441-7890

MICRO DESIGN AUTOMATION, INC.
1260 Clearmont St., NE, Bldg. 5
Palm Bay, FL 32905
305-725-8081; 305-254-0356

MICRO DESIGN INTERNATIONAL, INC. (MDI)
6566 University Blvd.
Winter Park, FL 32792
305-677-8333; TLX: 332-559 MDII ORL UD

MICRO DIMENSIONS
8825 Aero Dr., Suite 315
San Diego, CA 92123
619-278-2700

MICRO DISPLAY SYSTEMS, INC.
1310 Vermillion St., P.O. Box 455
Hastings, MN 55033
612-437-2233; 800-328-9524; TLX: 431-0015

MICRO ENGINEERING SYSTEMS, INC.
12545 W. Burleigh St.
Brookfield, WI 53005
414-782-7726

MICRO FIVE CORP.
3550 Hyland Ave., P.O. Box 5011
Costa Mesa, CA 92626
714-957-1517; TWX: 910-595-1960 MICRO V IRIN

MICRO FOCUS, INC.
2465 E. Bayshore Rd., Suite 400
Palo Alto, CA 94303
415-856-4161

MICRO INFORMATION ENGINEERING CORP.
565 E. Hwy. 434
Winter Springs, FL 32708
305-327-3120; 800-327-3443; TLX: 887-958

MICRO-INTEGRATION CORP.
IE Systems Divisions
112 Main St., P.O. Box 359
Newmarket, NH 03857
603-659-5891; 1-800-237-5888; TLX: 499-4016

MICRO INTEGRATION SERVICES, INC.
19 E. Main St., The Carriage House
Marlton, NJ 08053
609-596-6831

MICRO INTERFACES CORP.
6824 Northwest 169th St.
Miami, FL 33015
305-823-8088; TWX: 510-600-4680

MICRO MAINFRAME
11285-E Sunrise Gold Circle
Rancho Cordova, CA 95670
916-635-3997

MICRO MODE
4006 Mt. Laurel
San Antonio, TX 78240
512-341-2205

MICRO MOTION
8726 S. Sepulveda Blvd., Suite A171
Los Angeles, CA 90045
213-821-4340

MICRO-MRP, INC.
1065 E. Hillsdale Blvd., Suite 114
Foster City, CA 94404
415-345-6000

MICRO 1
557 Howard St.
San Francisco, CA 94103
415-974-5439

MICRO PLANNING SOFTWARE USA
235 Montgomery St., Suite 840
San Francisco, CA 94104
415-788-3324

MICRO PLANNING SYSTEMS, INC.
1499 Bayshore Hwy., Suite 214
Burlingame, CA 94010
415-692-0407

MICRO PLUS, INC.
3200 N. Federal Hwy., Suite 225
Boca Raton, FL 33431
305-391-9775; 800-992-2209

MICRO PRISM
15 Toronto St., Suite 1010
Toronto, Ontario, CD M5C 2E3
416-860-0165

MICRO R & D, INC.
3333 S. Wadsworth Blvd., Suite A-104
Lakewood, CO 80227
303-985-1473

MICRO SECURITY DEVICES, INC.
1414 Lincoln Ave., Suite 104
San Rafael, CA 94901
415-459-0190; 800-882-7766

MICRO-SOFTWARE DEVELOPERS
214 ½ W. Main St.
St. Charles, IL 60174
312-377-5151

MICRO SOLUTIONS, INC. (IL)
125 South 4th St.
DeKalb, IL 60115
815-756-3421

MICRO SWITCH
(division of Honeywell, Inc.)
11 W. Spring St.
Freeport, IL 61032
815-235-6600

MICRO/SYS
1011 Grand Central Ave.
Glendale, CA 91201-3010
818-244-4600; TLX: 170-788

MICRO SYSTEMS SOFTWARE
2905-B Homestead Rd.
Santa Clara, CA 95051
408-984-0660

MICRO-SYSTEMS SOFTWARE, INC.
4301-18 Oak Circle
Boca Raton, FL 33431
305-391-5077; 800-327-8724

MICRO TEMPUS, INC.
440 Dorchester Blvd., W, Suite 300
Montreal, Quebec, CD H2Z 1V7
514-397-9512, Ext. 32; 800-361-4983; TLX: 055-61829

MICRO TIMER & CONTROLS, INC.
2442 Stn. Mt. Lithonia Rd.
Lithonia, GA 30058-0280
404-482-4876

MICRO-VECTOR, INC.
One Byram Brook Place
Armonk, NY 10504
914-273-8700

THE MICRO WORKS, INC.
P.O. Box 1110
Del Mar, CA 92014
619-942-2400

MICRO WORKSHOP
P.O. Box 70
Cambridge, MA 02139
617-491-3999

MICRO-Z CO.
4 Santa Bella Rd., P.O. Box 2426
Rolling Hills, CA 90274
213-377-1640

MICROBAR DEVELOPMENT CORP.
12501 Bel-Red Rd., Suite 218
Bellevue, WA 98005
206-462-8304

MICROBRIDGE COMPUTERS INTERNATIONAL, INC.
655 Sky Way, Suite 125
San Carlos, CA 94070
415-593-8777

MICROCAD, LTD.
345 N. Main St.
West Hartford, CT 06117
203-233-3677; TLX: 595-045

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342 Madison Ave.
New York, NY 10017
212-867-0481

MICROCOM, INC.
1400A Providence Hwy.
Norwood, MA 02062
617-762-9310; 800-822-8224; TWX: 710-336-7802

MICROCOMP ENGINEERING SOFTWARE
1460 Park Hill Lane
Escondido, CA 92025
619-747-3103; TLX: 499-3571

MICROCOMPATIBLES, INC.
301 Prelude Dr.
Silver Spring, MD 20901
301-593-0683

MICROCOMPUTER ACCESSORIES, INC.
5405 Jandy Place
Los Angeles, CA 90066-0911
213-301-9400; 800-521-8270; TLX: 499-3614 MICRO AC

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7805 S. Winderemere Circle
Littleton, CO 80120
303-922-6410

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9715 Southwest 43rd St.
Mecer Island, WA 98040
206-236-2300; 800-722-8088

MICROCOMPUTER GRAPHICS, INC.
13468 Washington Blvd.
Marina del Rey, CA 90292
213-822-5258

MICROCOMPUTER MEMORIES, INC.
6855 Vineland Ave.
North Hollywood, CA 91605
818-700-8000; TLX: 181-813

MICROCOMPUTER SPECIALISTS
P.O. Box 40064
Philadelphia, PA 19106
215-625-9022

MICROCOMPUTER SYSTEMS, INC.
1814 Ryder Dr.
Baton Rouge, LA 70808
504-769-2154

MICROCORP
913 Walnut St.
Philadelphia, PA 19107
215-627-7997

MICROFIELD GRAPHICS, INC.
8285 S.W. Nimbus Ave., Suite 161
Beaverton, OR 97005
503-626-9393; TLX: 377-7991

MICROFORMS TRANS-LINGUAL
7808 Creekridge Circle, Suite 200
Minneapolis, MN 55435
612-944-5951

MICROGRAFX, INC.
1820 N. Greenville Ave.
Richardson, TX 75081
214-234-1769

MICROGRAPHIC IMAGES CORP.
19612 Kingsbury St.
Chatsworth, CA 91311
818-407-0571

MICROHELP, INC.
2220 Carlyle Dr.
Marietta, GA 30062
404-973-9272; 800-922-3383

MICROLITE CORP.
1021 Sutherland St.
Pittsburgh, PA 15204
412-771-4901

MICROMEC
P.O. Box 144
Berlin, MA 01503-0144
617-838-2021

MICRON INDUSTRIES CORP.
1830 North 32nd Ave.
Stone Park, IL 60165
312-345-0788; TLX: 27-0248

MICRON TECHNOLOGY, INC.
Systems Group
2805 E. Columbia Rd.
Boise, ID 83706
208-386-3800; TLX: 910-970-5973

MICROPHONICS TECHNOLOGY CORP.
234 Southwest 43rd St., Suite B
Renton, WA 98055
206-251-9009; 800-325-9206; TLX: 797-839 MICROPHONICS

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1977 State College Blvd.
Anaheim, CA 92806
714-634-1535

MICROPLOT SYSTEMS
659-H Park Meadow Rd.
Westerville, OH 43081
614-882-4786; TLX: 621-86730

MICROPLUS SOFTWARE, INC.
899 Boyd St.
Santa Rosa, CA 95407
707-526-3763; TLX: 361-768

MICROPOLIS CORP.
21123 Nordhoff St.
Chatsworth, CA 91311
818-709-3300; TLX: 651-486

MICROPRO INTERNATIONAL CORP.
33 San Pablo Ave.
San Rafael, CA 94903
415-499-1200

MICRORIM
3925 159th Ave., NE
Redmond, WA 98052
206-885-2000

MICROSCIENCE INTERNATIONAL CORP.
575 E. Middlefield Rd.
Mountain View, CA 94043
415-961-2212; TLX: 275-907

MICROSIM CORP.
23175 La Cadena Dr.
Laguna Hills, CA 92653
714-770-3022; TLX: 265-154 SPICE UR

MICROSOFT CORP.
16011 Northeast 36th Way, P.O. Box 9097017
Redmond, WA 98073-9717
206-882-8080; 800-426-9400; TLX: 328-945

MICROSOFTWARE INTERNATIONAL, INC.
3900 West 12th St.
Sioux Falls, SD 57107
605-335-7676

MICROSPEED
5307 Randall Place
Fremont, CA 94538
415-490-1403; 800-AFA-ST88

MICROSTAR LABORATORIES, INC.
2863 152nd Ave., NE
Redmond, WA 98052
206-881-4286

MICROSTAR SOFTWARE, LTD.
14 Concourse Gate, Suite 400
Nepean, Ontario, CD K2E 7S6
613-727-5696

MICROSTUF, INC.
1000 Holcomb Woods Pkwy., Suite 440
Roswell, GA 30076
404-998-3998

MICROSYM, INC.
512 W. Lancaster Ave.
Wayne, PA 19087
215-293-9134

MICROSYNC, INC.
P.O. Box 116302
Carrollton, TX 75011
214-492-5265

MICROTASK, INC.
6040-A Six Forks Rd., Suite 345
Raleigh, NC 27609
919-851-9045

MICROTAURE, INC.
P.O. Box 383, Station A
Ottawa, Ontario, CD K1N 8V4
613-236-7799

MICROTEC RESEARCH, INC.
3930 Freedom Circle
Santa Clara, CA 95054
408-733-2919; 800-551-5554; TLX: 499-0808

MICROTECH EXPORTS, INC.
223 Forest Ave.
Palo Alto, CA 94301
415-324-9114; TWX: 910-370-7457 MUH ALTOS

MICROTECH INTERNATIONAL
9906 Norwood Court
Largo, MD 20772
301-350-1068

MICROTEK COMPUTER SERVICES
307 Foxboro Court
Lake Mary, FL 32746
305-897-1688

MICROTEK, INC. (CA)
5555 Magnatron H
San Diego, CA 92111
619-569-0900

MICROTOUCH SYSTEMS, INC.
10 State St.
Woburn, MA 01801
617-935-0080; TLX: 530-264 MTS

MICROVISION SOFTWARE, LTD.
55 Nugget Ave., Unit G
Scarborough, Ontario, CD M1F 3Z1
416-431-7333

MICROVITEC, INC.
1943 Providence Court, Airport Perimeter Business Center
College Park, GA 30337
404-991-2246

MICROWAY, INC.
P.O. Box 79
Plymouth, MA 02364
617-746-7341

MICTRO (U.S.A.), INC.
2001 W. Chestnut St.
Alhambra, CA 91803
818-576-1621

MID-AMERICAN CONTROL CORP.
US 60, W, P.O. Box 57
Shelbyville, KY 40065
502-633-5700; 800-626-5518

MIDWEST COMPUTER CENTER CO.
5785 Merle Hay Rd., P.O. Box 188
Johnston, IA 50131
515-276-3387

MIGENT SOFTWARE, INC.
865 Tahoe Blvd., Suite 215, P.O. Box 6062
Incline Village, NV 89450-6062
702-832-3700

MIL-PAC SYSTEMS CO.
5121 Santa Fe St., Suite F
San Diego, CA 92109
619-581-6103

MILLER MICROCOMPUTER SERVICES
61 Lake Shore Rd.
Natick, MA 01760
617-653-6136

MINDSET CORP.
965 Maude Ave.
Sunnyvale, CA 94086
408-737-8555

MINI-MICRO BUSINESS SYSTEMS
P.O. Box 13063
Boulder, CO 80308-3063
303-444-3746

MINISCRIBE CORP.
1861 Lefthand Circle
Longmont, CO 80501
303-651-6000; TLX: 216-174

MINITAB, INC.
3081 Enterprise Dr.
State College, PA 16801
814-238-3280; TLX: 881-612

MINNOW BEAR COMPUTERS
P.O. Box 2233, Station A
Champaign, IL 61820-8233
217-398-6883

MINOLTA CORP.
101 Williams Dr.
Ramsey, NJ 07446
201-934-9400

MINUTEMAN SOFTWARE
P.O. Box 171
Stow, MA 01775
617-897-5662; 800-223-1430

MIPS SOFTWARE DEVELOPMENT, INC.
31555 W. Fourteen Mile Rd., Suite 104
Farmington Hills, MI 48018
313-855-3552; TLX: 211-894

MIRACLE COMPUTING
313 Clayton Court
Lawrence, KS 66044
913-843-5863

MIS/R SYSTEMS CO., INC.
(division of Fleetridge, Inc.)
4301 Lancaster Pike, 205 Canby Mill Bldg.
Wilmington, DE 19805
302-995-6340; 800-221-6477

MISCO, INC., COMPUTER SUPPLIES
One Misco Plaza
Holmdel, NJ 07733
201-264-8200; 1-800-631-2227

MITCHELL & GAUTHIER ASSOCIATES, INC.
73 Junction Sq. Dr.
Concord, MA 01742
617-369-5115; TLX: 951-572

MITCHELL MANAGEMENT SYSTEMS, INC.
2000 W. Park Dr., Westborough Office Park
Westborough, MA 01581
617-366-0800; 1-800-366-3661; TLX: 710-347-1054

MITEK SYSTEMS, INC.
10225 Barnes Canyon Rd., Suite A104
San Diego, CA 92126
619-587-9157

MITRON SYSTEMS CORP.
2000 Century Plaza
Columbia, MD 21044
301-992-7700 (MD); 800-638-9665

MITSUBA CORP.
284 E. Arrow Hwy.
San Dimas, CA 91773
714-592-2866; 800-MITSUBA; TLX: 298-111 SUPS UR

MITSUBISHI ELECTRONICS AMERICA, INC.
991 Knox St.
Torrance, CA 90502
213-515-3993; TLX: 664-787

MITSUBISHI INTERNATIONAL CORP.
520 Madison Ave.
New York, NY 10022
212-605-2344; TLX: 124-82

MIX SOFTWARE
2116 E. Arapaho, Suite 363
Richardson, TX 75081
214-783-6001

MLI MICROSYSTEMS
P.O. Box 825
Framingham, MA 01701
617-926-2055

MMS INTERNATIONAL
2600 Corporate Exchange Dr., Suite 190
Columbus, OH 43229
614-895-0738

MODCOMP
1650 W. McNab Rd.
Ft. Lauderdale, FL 33310
305-974-1380, Ext. 7823; TLX: 522-564; TWX: 510-956-9414

MODEM CONTROLS, INC.
(division of Generation 3, Inc.)
320 N. Michigan Ave.
Chicago, IL 60601
312-346-4600

MODERN MANAGEMENT, INC.
7301 Carmel Executive Park
Charlotte, NC 28226
704-542-6546

MODERN POWER TECHNOLOGY, INC.
827 E. Alosta Ave.
Glendora, CA 91740
818-963-0393

MODTECH
656 Bair Island Rd., Suite 302
Redwood City, CA 94063
415-367-6855

MODULA CORP.
950 N. University Ave.
Provo, UT 84604
801-375-7400

MODULA RESEARCH INSTITUTE
950 N. University Ave.
Provo, UT 84604
801-375-7402

MODULAR INSTRUMENTS, INC.
649 S. Henderson Rd., Westover Bldg.
King of Prussia, PA 19406
215-337-4507

MOLECULAR COMPUTER
1983 Concourse Dr.
San Jose, CA 95131
408-434-9500; TLX: 910-338-2343

MOLECULAR DESIGN, LTD.
2132 Farallon Dr.
San Leandro, CA 94577
415-895-1313; TLX: 470-631

THE MOM CORP.
1575 Northside Dr., NW, 100
Atlanta Technolgy Center
Atlanta, GA 30318
404-351-2902; 800-241-1170; TLX: 293-842 BREX UR

MOMENTUM SYSTEMS CORP.
201 Littleton Rd.
Morris Plaines, NJ 07950
201-984-9400

MONARCH MARKING
Retail Systems Division
P.O. Box 608
Dayton, OH 45401
513-865-2123; TLX: 228-284

MONITERM CORP.
5740 Green Circle Dr.
Minnetonka, MN 55343-9074
612-935-4151

MONITOR SOFTWARE
960 N. San Antonio Rd., Suite 210
Los Altos, CA 94022
415-949-1688

MONOLITHIC MEMORIES, INC.
2151 Mission College Blvd.
Santa Clara, CA 95054
408-970-9700

MONROE SYSTEMS FOR BUSINESS
The American Rd.
Morris Plains, NJ 07950
201-993-2000

MONTEREY COMPUTER CONSULTING
494 Alvarado St., Suite A
Monterey, CA 93940
408-646-1147

MOORE PRODUCTIVITY SOFTWARE
1607 Greenwood Dr.
Blacksburg, VA 24060-5937
703-953-1887

MOORE PRODUCTS CO.
Sumneytown Pike
Spring House, PA 19477
215-646-7400; TLX: 83-4378

MORGAN COMPUTING CO., INC.
P.O. Box 112730
Carrollton, TX 75011
214-245-4763

MORGAN-FAIRFIELD, INC.
1810 25th Ave., E
Seattle, WA 98112
206-324-5581

MORRISON & DEMPSEY COMMUNICATIONS
19201 Parthenia
Northridge, CA 91324
818-993-0195; TLX: 325-524 MODEM NTGE

MOSAIC SOFTWARE, INC.
1972 Massachusetts Ave.
Cambridge, MA 02140
617-491-2434

MOSAID, INC.
P.O. Box 13579
Kanata, Ontario, CD K2K 1X6
613-836-3134; *TLX: 053-4986*

MOTOROLA COMPUTER SYSTEMS, INC.
(member of the Motorola Information Systems Group)
10700 N. De Anza Blvd.
Cupertino, CA 95014
408-255-0900

MOTOROLA, INC.
Semiconductor Products Sector
3102 North 56th St.
Phoenix, AZ 85018
602-244-6900; TWX: 910-951-1334

MOUNTAIN COMPUTER, INC.
360 El Pueblo Rd.
Scotts Valley, CA 95066
408-438-6650; 1-800-458-0300; 1-800-821-6066 (CA) TWX: 910-598-4504

MOUNTAIN VIEW PRESS, INC.
P.O. Box X
Mountain View, CA 94040
415-961-4103

MOUSE SYSTEMS CORP.
2600 San Tomas Expwy.
Santa Clara, CA 95051
408-988-0211; TLX: 467-848

MPI (MICRO PERIPHERALS, INC.)
4415 South 5th West
Salt Lake City, UT 84123
801-263-6000; TLX: 296-917 MPI UR

MPL POWER SYSTEMS (NORTH AMERICA), INC.
3011 Lincoln Ave.
Richmond, VA 23228
804-262-6068

MPPI, LTD.
2200 Lehigh Ave.
Glenview, IL 60025
312-998-8401

MSA (MANAGEMENT SCIENCE AMERICA, INC.)
3445 Peachtree Rd., NE
Atlanta, GA 30326-1276
404-239-2000; TLX: 549-638

MSI DATA CORP.
340 Fischer Ave.
Costa Mesa, CA 92626
714-549-6000; TLX: 910-595-1719

MSS-MICROCOMPUTER STATISTICAL SYSTEMS
P.O. Box 774
Greenwood, IN 46142
317-882-8907

MTI SOFTWARE
(formerly DISCO-TECH, division of Morton Technologies, Inc.)
600 B St., P.O. Box 1659
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707-523-1600, Ext. 314; 800-624-1197, Ext. 314

MTM ASSOCIATION FOR STANDARDS AND RESEARCH
16-01 Broadway
Fair Lawn, NJ 07410
201-791-7720; TLX: 883-093

MULTI SOFT, INC.
(division of Multi Solutions, Inc.)
499 Thornall St., Midlantic Bank Bldg.
Edison, NJ 08837
201-549-7722

MULTI-TECH SYSTEMS, INC.
82 Second Ave., SE
New Brighton, MN 55112
612-631-3550; 800-328-9717 TWX: 910-563-3610

MULTIPRO
P.O. Box 342
Saline, MI 48176
313-429-2344

MULTITECH ELECTRONICS, INC.
1012 Stewart Dr.
Sunnyvale, CA 94086
408-773-8400; 800-538-1542

MUTOH AMERICA, INC.
(subsidiary of Mutoh Industries, Ltd.)
895 Cambridge Dr.
Elk Grove Village, IL 60007
312-952-8880

MUX LAB
165 Graveline
Ville St. Laurent, Quebec, CD H4T 1R3
514-735-2741; 800-361-1965; TLX: 05-827-602

M.V. AND ASSOCIATES
512 Burlington
LaGrange, IL 60525
312-352-4929

MYCROFT LABS, INC.
2615 N. Monroe St.
Tallahassee, FL 32303
904-385-1141; 1-800-MYCROFT; TLX: 510-600-8315

MYLEX CORP.
5217 Northwest 79th Ave.
Miami, FL 33166
305-592-9669

MYSTIC CANYON SOFTWARE
P.O. Box 1010
Pecos, NM 87552
505-757-6344

NAMCO, INC.
P.O. Box 14725
Orlando, FL 32857
305-277-2385

NANAO USA CORP.
373G Vintage Park Dr.
Foster City, CA 94404
415-341-7055

NANTUCKET, INC.
5995 S. Sepulveda Blvd., Suite 300
Culver City, CA 90230
213-390-7923; TLX: 650-257-4125

NASTEC CORP.
24681 Northwestern Hwy.
Southfield, MI 48075
313-353-3300; 800-872-8296

NATIONAL ADVANCED SYSTEMS, INC.
800 E. Middlefield Rd.
Mountain View, CA 94043
415-962-6000

NATIONAL DATACOMPUTER
34 Linnell Circle
Billerica, MA 01821
617-663-7677

NATIONAL INFORMATION CONSULTANTS, INC.
403 S. Cheyenne, Suite 600
Tulsa, OK 74103
918-584-2365

NATIONAL INFORMATION SYSTEMS, INC.
20370 Town Center Lane, Suite 130
Cupertino, CA 95014-3284
408-257-7700; TLX: 750-031

NATIONAL INSTRUMENTS
12109 Technology Blvd.
Austin, TX 78727-6204
512-250-9119; 800-IEEE-488 (TX); 800-531-4742; TLX: 756-737 NAT INST AUS

NATIONAL MANAGEMENT SYSTEMS
3337 Duke St.
Alexandria, VA 22314-4578
703-823-0300

NATIONAL MEMORY SYSTEMS CORP.
355 Earhart Way
Livermore, CA 94550
415-443-1669; TLX: 821-892 NMSUD; TWX: 910-386-6006

NATIONAL NUMERICAL CONTROL APPLICATIONS, INC. (NN/CA)
6789 Main St.
Williamsville, NY 14221
716-631-3993

NATIONAL PLANNING & CONSULTING CORP.
P.O. Box 140489
Coral Gables, FL 33114-0489
305-442-1133

NATIONAL SEMICONDUCTOR CORP.
2900 Semiconductor Dr., P.O. Box 58090
Santa Clara, CA 95052-8090
408-721-5000; TWX: 910-339-9240

NATIONAL SOFTWARE ASSOCIATES
4500 Larner
The Colony, TX 75056
214-370-7158

NATIONAL SOFTWARE ENTERPRISES, INC.
3260 Powers Ferry Rd., Suite C-210
Marietta, GA 30067
404-955-4268; TLX: 154111 OCOM UT

NATURAL MICROSYSTEMS CORP.
6 Mercer Rd.
Natick, MA 01760
617-655-0700

NAVONE ENGINEERING
(division of Navone Electronics, Inc.)
2116 Waterloo Rd.
Stockton, CA 95205
209-941-2669

NBI, INC.
3450 Mitchell Lane, P.O. Box 9001
Boulder, CO 80301
303-444-5710

NCL/CENTAN CORP.
11221 Innsbruck Dr.
Sunnyvale, CA 94089
408-734-1006

NCP CO.
111 Anza Blvd., Mail Stop 300
Burlingame, CA 94010
415-343-2741

NCR CORP.
1700 S. Patterson Blvd.
Dayton, OH 45479
513-445-5000; 800-222-1235; 800-268-3966 (DC); TLX: 288-093

NCSU SOFTWARE (NORTH CAROLINA STATE UNIVERSITY)
Box 8101
Raleigh, NC 27695
919-737-3067

NEC AMERICA, INC.
(subsidiary of NEC Corp.)
8 Old Sod Farm Rd.
Melville, NY 11747
516-753-7000; 800-538-8166; TLX: 144-658 NEC AMER MELV

NEC HOME ELECTRONICS (U.S.A.), INC.
Personal Computer Products Division
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312-860-9500; 800-323-1728

NEC INFORMATION SYSTEMS, INC.
1414 Massachusetts Ave.
Boxborough, MA 01719
617-264-8000; 800-343-4419; 800-343-4418

NEFF INSTRUMENT CORP.
700 S. Myrtle Ave.
Monrovia, CA 91016
818-357-2281; 800-423-7151; TWX: 910-585-1833

NELMA INFORMATION, INC.
5170A Timberlea Blvd.
Mississauga, Ontario, CD L4W 2S5
416-624-0334; TLX: 06-960-121

NELSON DATA RESOURCES
4901 F St.
Omaha, NE 68117
402-397-3030

NEOTECH SYSTEMS
8125 Catalpa, Suite A
El Paso, TX 79925
915-779-1722

NESTAR SYSTEMS, INC.
1345 Shorebird Way
Mountain View, CA 94043
415-969-1777; TLX: 171-420

NETRON, INC.
99 St. Regis Crescent, N
Toronto, Ontario, CD M3J 1Y9
416-636-8333; TLX: 06-963-532

NETWORK CONSULTING, INC.
Gilmore Way, Suite 305-3700
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604-430-3466; TLX: 040-3111

NETWORK DEVELOPMENT CORP.
81 Lancaster Ave., L-13 Great Valley Center
Malvern, PA 19355
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NETWORK INNOVATIONS CORP.
20863 Stevens Creek Blvd.
Cupertino, CA 95014
408-257-6800

NETWORK SOFTWARE ASSOCIATES, INC.
22982 Mill Creek
Laguna Hills, CA 92653
714-768-4013

NETWORK SYSTEMS CORP.
7600 Boone Ave., N
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612-424-4888; TLX: 201 678

NETWORK TECHNOLOGIES INTERNATIONAL, INC.
(division of NETI Technologies, Inc.)
315 W. Huron, Suite 320
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313-994-4030; 800-638-4832

NEW ENGLAND MICROCOMPUTER CO.
85 Flagship Dr., Suite G
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NEW ENGLAND SOFTWARE, INC.
Greenwich Office Park 3
Greenwich, CT 06831
203-625-0062; 800-633-2252

NEW GENERATION SYSTEMS, INC.
9510A Lee Hwy.
Fairfax, VA 22031
703-471-5598; 800-368-3359; TLX: 750-417 NEWGEN SYS UD

NEW HAMPSHIRE SOFTWARE, INC.
23 Deerhaven Dr.
Nashua, NH 03060
603-880-3664

NEW IMAGE TECHNOLOGY, INC.
10300 Greenbelt Rd., Suite 104
Seabrook, MD 20706
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NEW MEDIA GRAPHICS CORP.
279 Cambridge St.
Burlington, MA 01803
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NEW WAVE SYSTEMS
12123 Washington Place
Mar Vista, CA 90066
213-475-8545; TLX: 88-8055

NEWBURY DATA, INC.
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NEWER TECHNOLOGY
251 Whittier
Wichita, KS 67207
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NEWKIRK MANAGEMENT SERVICES, INC.
7950 Whitewood Rd.
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630 E. Young St.
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801 W. Iowa Ave.
St. Paul, MN 55117
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NIAKWA MANAGEMENT SERVICES OF AMERICA, INC.
23600 N. Milwaukee Ave.
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Chicago, IL 60601-5983
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P.O. Box 5267
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NIGHTOWL SOFTWARE, INC.
Rt. 1, Box 7
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414-563-4013; 800-NITEOWL

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1502 W. Campo Bella Dr.
Phoenix, AZ 85023
602-863-6182

NIPPON ELECTRIC INDUSTRY CO., LTD.
4984 El Camino Real, Suite 111
Los Altos, CA 94022
415-964-0977

NISSEI SANGYO AMERICA, LTD. (NSA)
150 East 52nd St.
New York, NY 10022
212-755-2900; TLX: 234-418

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17310 Red Hill Ave., Inwood Park, Suite 200
Irvine, CA 92714
714-261-8811; TLX: 181-308

NIXDORF COMPUTER CORP.
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Waltham, MA 02154
617-890-3600

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17746 Preston Rd.
Dallas, TX 75252
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NORCOM ELECTRONICS CORP.
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Norwalk, CT 06851
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NORFORK SYSTEMS
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Laurel Springs, NJ 08021
609-783-4483

NORPAK CORP.
10 Hearst Way
Kanata, Ontario, CD K2L 2P4
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NORSE SYSTEMS, INC.
50 Shaw Rd.
North Bradford, CT 06471
203-484-0491

NORTH AMERICA MICA, INC.
5230 Carroll Canyon Rd., Suite 110
San Diego, CA 92121
619-458-1327; TLX: 701-257 NAMICA UD

NORTH AMERICAN BUSINESS SYSTEMS, INC.
3840 Lindell Blvd.
St. Louis, MO 63108
314-534-7404

NORTH AMERICAN MICROTECH, INC.
324-328 West 2nd Ave.
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604-276-8214; TLX: 043-55686

NORTH AMERICAN TECHNOLOGY EDP, INC.
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Peripheral Products Division
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NORTH CAROLINA STATE UNIVERSITY RESEARCH CORP.
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919-821-1383

NORTH STAR COMPUTERS, INC.
14440 Catalina St.
San Leandro, CA 94577
415-357-8500; TLX: 910-366-7001

NORTHEASTERN SOFTWARE
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Shelton, CT 06484
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Integrated Office Systems (IOS) Division
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Richardson, TX 75081
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Glendale, WI 53209
414-781-6700

NORTHWEST ANALYTICAL, INC.
520 N.W. Davis St.
Portland, OR 97209
503-224-7727; TLX: 296-565 NWA STAT

NORTHWEST DIGITAL SYSTEMS
P.O. Box 15288
Seattle, WA 98115
206-524-0014

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Spokane, WA 99216
509-928-2361; 800-422-NWSA

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Santa Monica, CA 90403
213-453-2361

NORTON-LAMBERT CORP.
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Santa Barbara, CA 93140
805-687-8896; TLX: 709-170

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5320 South 900 East, Suite 110
Salt Lake City, UT 84117
801-261-0769

NOVA ELECTRIC, INC.
(subsidiary of Hobart Brothers Co. Power Systems Group)
263 Hillside Ave.
Nutley, NJ 07110
201-661-3434; TLX: 427-386

NOVA GRAPHICS INTERNATIONAL CORP.
1015 Bee Cave Woods
Austin, TX 78746
512-327-9300; TLX: 767-109 NOVA AUS

NOVATION, INC.
20409 Prairie St.
Chatsworth, CA 91311
818-996-5060; TWX: 910-493-1245 NOVATION CHATSWORTH

NOVELL, INC.
748 North 1340 West
Orem, UT 84057
801-226-8202; 800-453-1267; TWX: 910-971-4001

NSI LOGIC, INC.
Cedar Hill Business Pk., 257-B
Cedar Hill Rd.
Marlboro, MA 01752
617-460-0717

NUCLEUS, INC.
17288 Santa Barbara
Fountain Valley, CA 92708
714-841-3336

NUMBER CRUNCHER MICROSYSTEMS, INC.
1455 Hayes St.
San Francisco, CA 94117
415-922-9635; TLX: 731-4185

NUMBER CRUNCHER STATISTICAL SYSTEMS
865 East 400 North
Kaysville, UT 84037
801-546-0445

NUMBER NINE COMPUTER CORP.
725 Concord Ave.
Cambridge, MA 02138
617-492-0999; TLX: 371-7799

NUMERICAL ALGORITHMS GROUP, INC.
1101 31st St., Suite 100.
Downers Grove, IL 60515-1263
312-971-2337; TLX: 704-743

NUMERICS CORP.
P.O. Box 2512
Southfield, MI 48037
313-546-9437

NUMERITRONIX, INC.
2580 Azurite Circle
Newbury Park, CA 91320
805-499-2643; TLX: 194-250

NUMONICS
418 Pierce St.
Lansdale, PA 19446
215-362-2766; TLX: 510-661-6585

NYNEX SERVICE CO.
1166 Avenue of the Americas, Suite 1051
New York, NY 10036
212-395-3327

OAK SWITCH SYSTEMS, INC.
Keyboard Products Division
P.O. Box 517
Crystal Lake, IL 60014
815-459-5000; TWX: 910-634-3353; TLX: 722-447

OAKLAND GROUP, INC.
675 Massachusetts Ave.
Cambridge, MA 02139
617-491-7311

OASYS
(division of XEL, Inc.)
60 Aberdeen Ave.
Cambridge, MA 02138
617-491-4180; TLX: 951-131 HQ BSN

O'BRIEN & GERE ENGINEERS, INC.
1304 Buckley Rd.
Syracuse, NY 13221
315-451-4700

OBSIDIAN COMPUTER SYSTEMS
580 Grand Ave., Suite N
Oakland, CA 94610
415-839-0101

OCCUPATIONAL COMPUTING CO., INC.
31324 Via Colinas, Suite 107
Westlake Village, CA 91362-3919
818-991-5077

OCEANIC INFORMATION SYSTEMS, INC.
Software Division
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Rexdale, Ontario, CD M9W 6C8
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OCELOT COMPUTER SERVICES, INC.
10025 106th St., 1209 Baker Centre
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OCR SYSTEMS, INC.
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Pittsburgh, PA 15221
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OFFICE AUTOMATION SYSTEMS, INC.
8352 Clairemont Mesa Blvd.
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619-576-9500; TLX: 295-470 OAS UR

OFFICE SOLUTIONS, INC.
2802 Coho St.
Madison, WI 53713
608-274-5047; 800-228-0747

O'HANLON COMPUTER SYSTEMS
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Bellevue, WA 98004
206-454-5350; TLX: 152-974

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Specialized Software Division
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South Burlington, VT 05401
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OLIVETTI USA
Office Products Division
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Somerville, NJ 08876-1289
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OLYMPIA USA, INC.
Rt. 22, P.O. Box 22
Somerville, NJ 08876
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OMATION, INC.
1701 N. Greenville Ave., Suite 809
Richardson, TX 75081
214-231-5167

OMICRON
57 Executive Park, S, Suite 590
Atlanta, GA 30329
404-325-0124

OMNI COMPUTER SYSTEMS, INC.
P.O. Box 162
Chestnut Hill, MA 02167
617-522-4760; TLX: 627-54643

OMNICOMP GRAPHICS CORP.
1734 W. Belt, N
Houston, TX 77043
713-464-2990; TLX: 285-801 OMNICOUR

OMNICOMP, INC.
336 S. Fraser St., P.O. Box 332
State College, PA 16804
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ON-LINE BUSINESS SYSTEMS, INC.
115 Sansome St.
San Francisco, CA 94104
415-391-9555; TLX: 703-438 OBS SF

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Ft. Lee, NJ 07024
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312-680-5999; 800-243-4543; TLX: 757-024 ONEAC USA

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ONTRACK COMPUTER SYSTEMS, INC.
7460 Washington Ave., S
Eden Prairie, MN 55344
612-941-4504

OPE PRINTERS, INC.
(subsidiary of Olivetti OPE)
505 White Plains Rd.
Tarrytown, NY 10591
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OPEN SYSTEMS, INC.
(subsidiary of Uccel Corp.)
6477 City West Pkwy.
Eden Prairie, MN 55344
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ORACLE CORP.
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ORION RESEARCH, INC.
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42680 Christy St.
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OUTPUT TECHNOLOGY CORP.
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TLX: 152-269 OUTPUTSPOK

OVERLAND DATA, INC.
5644 Kearny Mesa Rd.
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619-571-5555; TLX: 754-923

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PACKET/PC, INC.
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PANASONIC INDUSTRIAL CO.
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PAPERBACK SOFTWARE INTERNATIONAL
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415-644-2116

PARA SYSTEMS, INC.
11425 Mathis St., Suite 404
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214-869-1688; 800-238-PARA;
TLX: 140275 OMEGA

PARADISE SYSTEMS, INC.
217 E. Grand Ave.
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415-588-6000; 800-822-2020 (CA); 800-527-7977; TLX: 709-368

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P.O. Box 15172
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PASCAL SYSTEMS, INC.
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PATTON & PATTON
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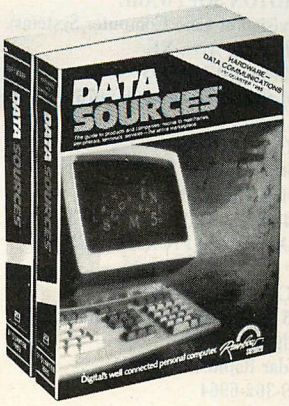
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714-540-4229

PURE DATA, LTD.
860 Denison St., Suite 12
Markham, Ontario, CD L3R 4H1
416-494-9563; 416-475-3370; TLX: 06-966-707

THE 'PUTER GROUP
1717 W. Beltline Hwy.
Madison, WI 53713
608-273-1803

PYXEL APPLICATIONS
2917 Mohawk Dr.
Richmond, VA 23235
804-320-5573

QAX INTERNATIONAL SYSTEMS CORP.
4173 Cave Hill Rd.
Spring Hill, FL 33526
904-596-2090

QCAD SYSTEMS, INC.
1164 Hyde Ave.
San Jose, CA 95129
408-255-5574; 800-538-9787

QDP COMPUTER SYSTEMS, INC.
10330 Brecksville Rd.
Cleveland, OH 44141
216-526-0838; TLX: 241-596

QIC RESEARCH, INC.
528 Valley Way
Milpitas, CA 95035
408-942-8086

QINT DATABASE SYSTEMS CORP.
125 Robert Rd.
Waltham, MA 02154
617-891-3377

QMS, INC.
One Magnum Pass
Mobile, AL 36618
205-633-4300, Ext. 125; TLX: 266-013

Q-N-E INTERNATIONAL
136 Granite Hill Court
Langhorne, PA 19047
215-968-5966

QSR SERVICE CORP.
1086 Teaneck Rd.
Teaneck, NJ 07666
201-837-3977

QUA TECH, INC.
478 E. Exchange St.
Akron, OH 44304
216-434-3154; TLX: 510-101-2726

QUADRAM
(subsidiary of Intelligent Systems Corp.)
One Quad Way
Norcross, GA 30093
404-923-6666; TWX: 810-766-4915

QUADRATRON SYSTEMS, INC.
15260 Ventura Blvd., 18th Floor
Sherman Oaks, CA 91403
818-789-8588; TLX: 705-533

QUAID SOFTWARE, LTD.
45 Charles St., E, 3rd Floor
Toronto, Ontario, CD M4Y 1S2
416-961-8243

QUALA
23026 Frisca Dr.
Valencia, CA 91355
805-255-2922

QUALITAS, INC.
8314 Thoreau Dr.
Bethesda, MD 20817
301-469-8848

QUALITY SOFTWARE ENGINEERING, INC.
600 W. Pickard St.
Mt. Pleasant, MI 48858
517-773-5335

QUALITY SOFTWARE, INC.
60 Lewis St.
Newton, MA 02158
617-965-2231

QUALSTAR CORP.
9015 Eton Ave.
Canoga Park, CA 91304
818-882-5822; TLX: 510-600-2569

QUALTEC, INC.
1400 Coleman Ave., Suite 4-11
Santa Clara, CA 95050
408-496-6184; TLX: 171-135

QUAM CORP.
2817 Anthony Lane, S
Minneapolis, MN 55418
612-788-1099

QUAM DEVELOPMENT GROUP, LTD.
5113 Leesburg Pike, Suite 302
Falls Church, VA 22041
703-379-8484

QUANT SYSTEMS
P.O. Box 628
Charleston, SC 29402
803-571-2825; 800-334-0854, Ext. 814

QUANTEK CORP.
17975 Main St.
Irvine, CA 92714
714-250-1909

QUANTITATIVE SOFTWARE MANAGEMENT
1057 Waverley Way
McLean, VA 22101
703-790-0055

QUANTITATIVE TECHNOLOGY CORP.
8700 S.W. Creekside Place, Suite D
Beaverton, OR 97005
503-626-3081

THE QUANTUM CO.
P.O. Box 769
Cliffton Park, NY 12065
518-877-5236

QUANTUM SOFTWARE SYSTEMS, LTD.
215 Stafford Rd.
Nepean, Ontario, CD K2H 9C1
613-726-1893

QUANTUMN INFORMATION SYSTEMS, INC.
145 Northwest 85th St., Suite 103
Seattle, WA 98117
206-789-2888; TLX: 494-1041

QUARTERDECK OFFICE SYSTEMS
1918 Main St., Suite 240
Santa Monica, CA 90405
213-392-9851; 800-845-6621

QUBIE
507 Calle San Pablo
Camarillo, CA 93010
805-987-9741; 800-821-4479; TLX: 382-911

QUE CORP.
(division of Macmillan, Inc.)
7999 Knue Rd., Suite 202
Indianapolis, IN 46250
317-842-7162; 800-428-5331; TLX: 757-425

QUESTIONNAIRE SERVICE CO.
P.O. Box 778
East Lansing, MI 48823
517-641-4428

QUICKVIEW SYSTEMS
146 Main St., Suite 404
Los Altos, CA 94022
415-965-0327; 800-443-0100, Ext. 341

QUILT COMPUTING
7048 Stratford Rd.
Woodbury, MN 55125
612-739-4650

QUIMAX SYSTEMS, INC.
844 Del Rey Ave.
Sunnyvale, CA 94086
408-773-8282; 800-228-0530; 800-232-8282 (CA)

QUINCY STREET CORP.
2131 E. Broadway
Tempe, AZ 85282
602-829-1188

QUINN-CURTIS
49 Highland Ave.
Needham, MA 02194
617-444-7721

QYTEL
(division of Consolidated Data Systems, Ltd.)
120 Rt. 17, N
Paramus, NJ 07652
212-684-0146; 201-599-0380

RABBIT SOFTWARE CORP.
7 Great Valley Pkwy., E
Malvern, PA 19355
215-647-0440; TLX: 315-721

RAC INFORMATION SYSTEMS, INC.
11 Middle Neck Rd.
Great Neck, NY 11021
516-829-9500

RACAL-REDAC, INC.
4 Lyberty Way
Westford, MA 01886
617-692-4900

RACAL-VADIC
(subsidiary of Racal Electronics, Ltd.)
1525 McCarthy Blvd.
Milpitas, CA 95035
408-946-2227; 800-482-3427; TLX: 184-973 VADICUT; TWX: 627-82187 ESL UD

RACET COMPUTES, LTD.
1855 W. Katella, Suite 255
Orange, CA 92667
714-997-4950; TLX: 701-160

RACORE COMPUTER PRODUCTS, INC.
10 Victor Sq., Suite 600
Scotts Valley, CA 95066
408-438-7255; 800-325-1833; TLX: 453-003

RADIAN CORP.
8501 Mo-Pac Blvd., P.O. Box 9948
Austin, TX 78766-0948
512-454-4797; TWX: 910-874-1342; TLX: 269-263

RAF SOFTWARE, INC.
P.O. Box 32338
San Antonio, TX 78216
512-366-3633

RAIMA CORP.
12201 S.E. Tenth St.
Bellevue, WA 98005
206-747-5570; 800-843-3313; TLX: 910-333-0300

RAINBOW SOFTWARE SYSTEMS, INC.
2715 Bissonnet, Suite 213
Houston, TX 77005
713-529-2722

RAINBOW TECHNOLOGIES, INC.
17971 Skypark Circle, Suite E
Irvine, CA 92714
714-261-0228; TLX: 386-078

RAMTEK CORP.
2211 Lawson Lane
Santa Clara, CA 95050
408-988-2211; TLX: 171-954

THE RAND GROUP, INC.
(subsidiary of Intergraph Corp.)
17430 Campbell Rd., Suite 114
Dallas, TX 75252
214-661-0124

RAND MCNALLY & CO.
Information Resource Management Dept.
P.O. Box 7600
Chicago, IL 60680
312-673-MAPS; 800-332-RAND; TLX: 223-3631

RAPI-SERV CASH SYSTEMS, INC.
1550 Old W. Henderson Rd.
Columbus, OH 43220
614-451-7835; TLX: 510-601-7586

RAPID IMAGING SOFTWARE
P.O. Box 941
Tijeras, NM 87059
505-243-9454

RAPID SYSTEMS
755 N. Northlake Way
Seattle, WA 98103
206-547-8311; TLX: 265-017 UR

RAPITECH SYSTEMS, INC.
Montebello Corporate Park
Suffern, NY 10901
914-368-3000; 800-FORTRIX; TLX: 509-210

THE RAPPORT CORP.
20 Exchange Place, 45th Fl.
New York, NY 10005
216-968-8270

RATELCO, INC.
Power Systems Division
1260 Mercer St.
Seattle, WA 98109
206-624-7770; TLX: 888-729

RATIONAL DATA SYSTEMS, INC.
5725 Paradise Dr., Suite 410
Corte Madera, CA 94925
415-924-0840

RATIONAL SYSTEMS, INC.
P.O. Box 480
Natick, MA 01760
617-653-6194

RAYTRONICS
7392 Trade St.
San Diego, CA 92121
619-566-7515

RCA SERVICE CO.
Business Services and Systems
Rt. 38, Bldg. 204-2
Cherry Hill, NJ 08385
609-486-5526; 609-486-5518; TWX: 834-357

RCT DESIGN
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Nipomo, CA 93444
805-934-2905

RDT SOFTWARE
P.O. Box 3216
Lawton, OK 73502
405-536-2078

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40 N. Van Brunt St.
Englewood, NJ 07631
201-568-0446; TLX: 759-688

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P.O. Box 515
Portage, MI 49081
616-327-9172; TLX: 499-5290

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1390 Flynn Rd., Unit E
Camarillo, CA 93010
805-987-9781; TLX: 467-897 RTCS CI

REAL TIME DEVICES, INC.
1930 Park Forest Ave.
State College, PA 16803
814-234-8087; TLX: 494-8141 SEDACOG

REALIA, INC.
10 S. Riverside Plaza
Chicago, IL 60606
312-346-0642; TLX: 332-979

REALTY MICROSYSTEMS, INC.
11 Bond St., Suite 103
St. Catharines, Ontario, CD L2R 4Z4
416-641-1882

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924 Incline Way, P.O. Box 8510
Incline Village, NV 89450
702-831-0473; TLX: 753-168

RECOGNITION EQUIPMENT, INC.
P.O. Box 660204
Dallas, TX 75266-0204
214-579-6000; TLX: 730-653

RED RIVER TECHNOLOGY, INC.
4001 W. Airport Frwy., Suite 500
Bedford, TX 76021
817-571-5714

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Boulder, CO 80301
303-449-4157; TLX: 316-074

RELATIONAL DATABASE SYSTEMS, INC.
4100 Bohannon Dr.
Menlo Park, CA 94025
415-322-4100; TLX: 361-834

RELATIONAL TECHNOLOGY, INC.
1080 Marina Village Pkwy.
Alameda, CA 94501
415-769-1400; 800-4-INGRES; TLX: 333-476

RELAX TECHNOLOGY
3101 Whipple Rd., Suite 25
Union City, CA 94587
415-471-6112

RELMS (RELATIONAL MEMORY SYSTEMS)
3001 Ross Ave.
San Jose, CA 95124
408-265-5411

REMASCO, INC.
10240 Southwest 96th Terr.
Miami, FL 33176
305-271-9806

REMOTE DATA SYSTEMS, INC.
14640 W. Greenfield Ave.
Brookfield, WI 53005
414-782-3777

REMOTE MEASUREMENT SYSTEMS, INC.
2633 Eastlake Ave., E, Suite 200
Seattle, WA 98102
206-328-2255; TLX: 650-274-9152

RENAISSANCE MARKETING, INC.
463 Union Ave.
Westbury, NY 11590
516-271-2389

RENEX CORP.
1513 Davis Ford Rd.
Woodbridge, VA 22192
703-494-2200; TLX: 710-831-0237

RENISHAW-MAE
623 Cooper Court
Schaumburg, IL 60173
312-843-3666; 800-621-3262

RESEARCH ENGINEERS, INC.
303 Pavillion of Greentree
Marlton, NJ 08053
609-983-5050; TLX: 499-4385

RESOURCE DYNAMICS, INC.
150 East 58th St.
New York, NY 10155
212-486-9150

RETAIL SOLUTIONS, INC.
1227 Innsbruck Dr.
Sunnyvale, CA 94089
408-734-0653; TLX: 697-1123

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3 Courthouse Lane
Chelmsford, MA 01824
617-458-1130

REXON BUSINESS MACHINES CORP.
(subsidiary of Rexon, Inc.)
5800 Uplander Way
Culver City, CA 90230
213-641-7110; 800-421-5184; TWX: 910-328-6121

RHINTEK, INC.
P.O. Box 220
Columbia, MD 21045
301-730-2575

RICKERDATA
P.O. Box 998
Melrose, MA 02176
617-662-0856

RICOH CORP.
5 Dedrick Place
West Caldwell, NJ 07006
201-882-2000; TLX: 752-930 ROA-UD

RICOH SYSTEMS, INC.
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San Jose, CA 95131
408-946-6200

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1737 Veterans Hwy.
Central Islip, NY 11722
516-348-1577

RIM ELECTRONICS, INC.
16890 Church St., Suite 203
Morgan Hill, CA 95037
408-778-1286

RIVERDALE SYSTEMS DESIGN, INC.
3333 Henry Hudson Pkwy.
Riverdale, NY 10463
212-549-1692; 800-622-4070

RIX SOFTWORKS, INC.
17971 Skypark Circle, Suite F
Irvine, CA 92714
714-261-0440

RJL SYSTEMS
106 New Haven Ave.
Milford, CT 06460
203-878-0376

RLJ SOFTWARE APPLICATIONS
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Hillsdale, MI 49242
517-439-9605

RMK SYSTEMS
10 Harding Ave.
Oaklyn, NJ 08107

RMS MANAGEMENT SYSTEMS, INC.
(division of MAST Resources, Inc.)
405 St. Dizier
Montreal, Quebec, CD H2Y 2Y1
514-845-4131; TLX: 055-61405

DB ROBINSON & ASSOCIATES, LTD.
9419 - 20 Ave.
Edmonton, Alberta, CD T6N 1E5
403-463-8638; TLX: 037-2966

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111 Pheasant Run
Newtown, PA 18940
215-968-4422

ROCKWELL INTERNATIONAL CORP.
Semiconductor Products Division
4311 Jamboree Rd., Mail Station 501-300
Newport Beach, CA 92660-3095
714-833-4700; 800-854-8099; 800-422-4230 (CA); TLX: 910-591-1698

ROCKY MOUNTAIN SOFTWARE SYSTEMS
1280C Newell Ave., Suite 147D,
P.O. Box 3282
Walnut Creek, CA 94596
415-680-8378

ROCKY MOUNTAIN TRADING CO.
Systems Division
P.O. Box 1458
Boulder, CO 80306
303-442-2850

RODIME, INC.
(division of Rodime PLC)
901 Broken Sound Pkwy., NW
Boca Raton, FL 33431
305-994-6200; TLX: 160-082 RODY UT

ROLAND DG
(division of Roland Corp. US)
7200 Dominion Circle
Los Angeles, CA 90040
213-685-5141

ROSAL SYSTEMS, LTD.
13220 St. Albert Trail, 2nd Floor
Edmonton, Alberta, CD T5L 4W1
403-451-6163

ROSEN GRANDON ASSOCIATES, INC.
3106 Edgewater Dr.
Greensboro, NC 27403
919-292-2116

ROSESOFT, INC.
P.O. Box 45880
Seattle, WA 98145-0880
206-282-0454

ROSS SYSTEMS, INC.
1860 Embarcadero Rd.
Palo Alto, CA 94303
415-856-1100

ROSSCOMP CORP.
1695 MacArthur
Costa Mesa, CA 92626
714-540-9393; TLX: 683-466

ROUGHNECK SYSTEMS
1780 Northwest Hwy., Suite 140
Garland, TX 75041
214-270-6485

ROUSSI CONSULTING
913 E. Augusta Dr.
Augusta, MI 49012
616-731-5863

ROYAL CONSUMER BUSINESS PRODUCTS
550 Marshall Phelps Rd.
Windsor, CT 06095
203-683-2222

RR SOFTWARE, INC.
2718 Dryden Dr., P.O. Box 1512
53701
Madison, WI 53704
608-244-6436; TLX: 499-8168

RSA DATA SECURITY, INC.
10 Twin Dolphin Dr.
Redwood City, CA 94065
415-595-8782

RTE DELTEC CORP.
2727 Kurtz St.
San Diego, CA 92110
619-291-4211; 800-854-2658; TWX: 910-335-1241

RUNE ENTERPRISES
1502 Kirkham
San Francisco, CA 94122
415-681-1763

RVA TECHNOLOGY, INC.
10 Ferry Wharf
Newburyport, MA 01950
617-465-1126

RWT CORP.
1601 Fechanville Dr., Suite 500
Mt. Prospect, IL 60056
312-390-0200; 1-800-323-5933; TLX: 210-203

RYAN-MCFARLAND CORP.
609 Deep Valley Dr.
Rolling Hills Estates, CA 90274
213-541-4828

SAB NIFE, INC.
(division of Sonesson Group)
George Washington Hwy.
Lincoln, RI 02865
401-333-1170

SABADIA EXPORT CORP.
4091 E. La Palma Ave., Unit P
Anaheim, CA 92807
714-630-9335; TLX: 756-582

SAFE POWER SYSTEMS, INC.
528 West 21st St.
Tempe, AZ 85282
602-894-6864; TWX: 910-940-0142

SAFEWARE COMPUTER SYSTEMS
543 Church St.
Ann Arbor, MI 48104
313-995-0852

SAGE SOFTWARE, INC.
3200 Monroe St.
Rockville, MD 20852
301-230-3200; 800-638-8703; TLX: 248-813

S.A.I.L. SYSTEMS
86 W. University, Suite 14
Mesa, AZ 85201
602-962-1876; TWX: 910-997-6145

SAKATA USA CORP.
651 Bonnie Lane
Elk Grove Village, IL 60007
312-593-3211

SAMKHYA SOFTWARE CORP.
47 Sixth St., P.O. Box 142
Petaluma, CA 94953
707-763-2800

SAMPO CORP. OF AMERICA
Industrial Products Division
5550 Peachtree Industrial Blvd.
Norcross, GA 30071
404-449-6220; Telex: 510-100-4943

SAMSUNG ELECTRONICS AMERICA, INC.
1309 Walnut Pkwy.
Compton, CA 90220
213-637-0254; TLX: 181-370; 800-621-5322; 800-621-1890 (CA)

SAN DIEGO COMPUTER CORP.
256 Witherspoon Way, Suite M
San Diego, CA 92020
619-463-2422

SANTA CLARA SYSTEMS, INC.
1610 Berryessa Rd., Bldg. D
San Jose, CA 95133
408-287-4640; TLX: 176-309 SCS SNJ

THE SANTA CRUZ OPERATION, INC. (SCO)
500 Chestnut St., P.O. Box 1900
Santa Cruz, CA 95061
408-425-7222; 800-626-UNIX; TWX: 910-598-4510 SCO SACZ

SANTIAGO DATA SYSTEMS, INC.
1071 N. Batavia
Orange, CA 92667
714-633-7807; 800-652-3506; 800-435-1222 (CA)

SANYO BUSINESS SYSTEMS CORP.
(Computer Division)
51 Joseph St.
Moonachie, NJ 07074
201-440-9300, Ext. 315; TLX: 642-622 SANMAR-MOON

SAPANA MICRO SOFTWARE
1305 S. Rouse
Pittsburg, KS 66762
316-231-5023

SAS INSTITUTE, INC. (NC)
Box 8000, SAS Circle
Cary, NC 27511-8000
919-467-8000; TLX: 802-505 SAS RAL

SATO CORP.
1000 Elwell Court, Suite 124
Palo Alto, CA 94303
415-964-5445; TLX: 278-559 MUHA UR

SATURN BUSINESS SYSTEMS, INC.
420 Lexington Ave.
New York, NY 10017
212-557-8134

SAUER COMPUTER SYSTEMS, INC.
1750 S. Brentwood Blvd.
St. Louis, MO 63144
314-962-0382; 800-325-9494

SAVANT CORP.
P.O. Box 440278
Houston, TX 77244-0278
713-556-8363; 800-231-9900

THE SAVVY CORP.
800 Rio Grande Blvd., NW
Albuquerque, NM 87104
505-265-1273

SAYLOR ELECTRONICS INTERNATIONAL, INC.
1824 Calash Dr.
Carson City, NV 89701
702-883-4184

SB ASSISTANT
(division of Advanced Creative Technologies, Inc.)
20 Chapel St.
Brookline, MA 02146
617-566-4800

SBT CORP.
3 Harbor Dr.
Sausalito, CA 94965
415-331-9900

SCA PRODUCTS & SERVICES
353 Lexington Ave.
New York, NY 10016
212-532-2990

SCANDURA INTELLIGENT SYSTEMS
(division of Intelligent Micro Systems, Inc.)
1249 Greentree Lane
Narberth, PA 19072
215-222-1147

SCANMARK DIVISION, ELECTROPRINT, INC.
(a Markem Co.)
150 Congress St.
Keene, NH 03431
603-352-1130; 800-462-7536; TLX: RCA-216-470

SCHNEIDER ASSOCIATES
1485 Chain Bridge Rd., Suite 105
McLean, VA 22101
703-442-8927

SCHUCHARDT SOFTWARE SYSTEMS, INC.
P.O. Box 13778
San Rafael, CA 94913
415-492-9330; TLX: 296-177

SCI SYSTEMS, INC.
5000 Technology Dr.
Huntsville, AL 35805
404-396-3428; TWX: 782-421 SCI HTV

SCIENCE ACCESSORIES CORP.
970 Kings Hwy., W
Southport, CT 06490
203-255-1526; TLX: 964-300 SAC SPRT

SCIENCE APPLICATIONS INTERNATIONAL CORP.
Computer Systems Operation
1200 Prospect St., P.O. Box 2351
La Jolla, CA 92038
619-456-6048; 619-456-6053

SCIENTIFIC AND BUSINESS SYSTEMS, INC.
2 Park Ave.
New York, NY 10016
212-481-1310

SCIENTIFIC CALCULATIONS, INC.
7635 Main St.
Fishers, NY 14453
716-924-9303; 800-348-4466; TLX: 978-316

SCIENTIFIC COMPUTER APPLICATIONS CORP.
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Midway, GA 31320
912-884-3000

SCIENTIFIC COMPUTING ASSOCIATES
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312-383-1797

SCIENTIFIC ENDEAVORS CORP.
22 Mona Lane
Oak Ridge, TN 37830
615-376-4146

SCIENTIFIC SOFTWARE
2 Sequoia Tree Lane
Irvine, CA 92715
714-786-8366

SCIENTIFIC SOLUTIONS, INC.
6225 Cochran Rd.
Solon, OH 44139
216-349-4030

SCILAB, INC.
P.O. Box 614
Guilderland, NY 12084
518-355-3363

SCION CORP.
12310 Pinecrest Rd.
Reston, VA 22091
703-476-6100; TWX: 759-277

SCITOR CORP.
250 Lincoln Centre Dr.
Foster City, CA 94404
415-570-7700

SCOTT & SCOTT CONSULTANTS, INC.
1180 Toreador, P.O. Box 27476
St. Louis, MO 63141
314-576-7727; TLX: 821-395 SCOTT SCOTT STL

SCOTTSDALE SYSTEMS
617 N. Scottsdale Rd., Suite B
Scottsdale, AZ 85257
602-941-5856

SCRIPTEL CORP.
4145 ArlingGate Plaza
Columbus, OH 43228
614-276-8402; TLX: 245-390 SCTEL

SCS, INC.
P.O. Box 15367
Ft. Wayne, IN 46885
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SDM CONTROL CORP.
2202 Brandeis
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SDM-SYSTEMATICS, INC.
200 Crossways Park Dr.
Woodbury, NY 11797
516-496-9400

SDRC CAE INTERNATIONAL, INC.
300 Technecenter Dr.
Milford, OH 45150
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SEASIDE SOFTWARE
119 S. Washington St., P.O. Box 31
Perry, FL 32347
904-584-6590; 800-3-ASKSAM

SEASONED SYSTEMS, INC.
P.O. Box 3036
Chapel Hill, NC 27515
919-967-5818; 800-334-5531

SEATTLE COMPUTER PRODUCTS, INC.
7649 South 180th St.
Kent, WA 98032
206-251-9677; 800-331-0246

SEATTLE TELECOM & DATA, INC.
12277 134th Court, NE, Suite 205
Redmond, WA 98052-2429
206-883-8440

SEBRING HARD DISC SYSTEMS
(division of S. M. Rapier Corp.)
325 Sixth St.
Manhattan Beach, CA 90266
213-532-2893

SECURE SYSTEMS TECHNOLOGY, INC.
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Ann Arbor, MI 48103
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Graphics Devices & Systems Division
1623 Buckeye Dr.
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SEIKOSHA CO., LTD.
10080 N. Wolfe Rd., Suite SW3/249
Cupertino, CA 95014
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SEITZ TECHNICAL PRODUCTS, INC.
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415-459-4003

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Boston, MA 02115
617-536-7200

SEMAPHORE, INC.
60 East 42nd St., Suite 933
New York, NY 10165
212-697-1196; TLX: 148-424 EKNYK

SEMI-CUSTOM SOFTWARE
6807 Brennon Lane
Chevy Chase, MD 20815
301-654-8135

SEMIDISK SYSTEMS, INC.
11080 S.W. Allen Blvd., Suite 400
Beaverton, OR 97005
503-626-3104

SENTINEL COMPUTER CORP.
8800 Governor's Hill Dr.
Cincinnati, OH 45249
513-677-2400; 1-800-358-5511; 1-800-628-2266 (OH); TLX: 214-366

SERIAL LAB PRODUCTS, INC.
162 Cook Lane
Marlboro, MA 01752
617-481-1684

SERVER TECHNOLOGY
1095 E. Duane, Suite 107
Sunnyvale, CA 94086
408-738-8377; 800-835-1515

JIM SERWER
P.O. Box 116
Campbell, CA 95009
408-296-4763

SHADE INFORMATION SYSTEMS, INC.
333 Main St., P.O. Box 19730
Green Bay, WI 54307-9730
414-432-6700

J.H. SHANNON ASSOCIATES
P.O. Box 597
Chapel Hill, NC 27514
919-929-6863

SHAPE MAGNETRONICS, INC.
901 N. DuPage Ave.
Lombard, IL 60148
312-620-8394; TWX: 910-991-2352

SHARED SYSTEMS TECHNOLOGIES, INC.
Rt. 4, P.O. Box 196
Killington, VT 05751-0196
802-775-0837

I. P. SHARP ASSOCIATES, LTD.
2 First Canadian Place, Suite 1900
Toronto, Ontario, CD M5X 1E3
416-364-5361; 800-387-1588; TLX: 062-2259 I P SHARP TOR

SHARP ELECTRONICS CORP.
Systems Division
Sharp Plaza
Mahwah, NJ 07430
201-529-9500; 800-526-0264, Ext. 9500

SHEPPARD SOFTWARE CO.
4750 Clough Creek Rd.
Redding, CA 96002
916-222-1553

SHERBORN SOFTWARE SYSTEMS
226 Western Ave.
Sherborn, MA 01770
617-655-6543

SHINWA OF AMERICA, INC.
5915 Lincoln Ave.
Morton Grove, IL 60053
312-470-1600; TLX: 289-468

SHIRLEY SOFTWARE SYSTEMS
1936 Huntington Dr.
South Pasadena, CA 91030
818-441-5121

SHOSHIN U.S.A., INC.
1700 E. Garry Ave., Suite 115
Santa Ana, CA 92705
714-250-4073

SIECOR CORP.
489 Siecor Park
Hickory, NC 28603
704-327-5000

SIEMENS ENERGY & AUTOMATION, INC.
Programmable Controls Division
10 Technology Dr., Centennial Industrial Park
Peabody, MA 01960
617-532-6720; 800-322-7224

SIEMENS INFORMATION SYSTEMS, INC.
Communication Systems & Networks Group
5500 Broken Sound Blvd.
Boca Raton, FL 33431
305-994-8800; 800-327-0636; 800-JET-TECH

SIERRA COMPUTER PRODUCTS
2599 Starbuck Court
Rescue, CA 95672
916-677-6445; TLX: 311-757

SIERRA CYBERNETICS
12212 Shady Lane
Nevada City, CA 95959
916-265-8833

SIERRA/MISCO, INC.
1825 Eastshore Hwy.
Berkeley, CA 94710
415-843-1282; TLX: 275-945 SMBK UR

SIGEA SYSTEMS, INC.
19 Pelham Rd.
Weston, MA 02193
617-647-1098

SIGMA DESIGN, INC.
16 Iverness Dr., E, Suite 300
Englewood, CO 80112
303-790-9080

SIGMA DESIGNS, INC.
2023 O'Toole Ave.
San Jose, CA 95131
408-435-1480

SIGMA INFORMATION SYSTEMS, INC.
3407 E. La Palma Ave.
Anaheim, CA 92806
714-632-0474; TLX: 298-607 SGMA

SIGMA SOFTWARE, INC.
1009 Sullivan Ave.
South Windsor, CT 06074
203-644-3401

SIGMA SYSTEMS, INC. (FL)
7221 Northwest 11th Place
Plantation, FL 33313
305-581-8361

SIGNAL TECHNOLOGY, INC.
5951 Encina Rd.
Goleta, CA 93117
805-683-3771; 800-235-5787; TWX: 910-334-3471

SIGNIFICANT STATISTICS
3336 N. Canyon Rd.
Provo, UT 84604
801-377-4860

SILICON GRAPHICS, INC.
2011 Stierlin Rd.
Mountain View, CA 94043
415-960-1980

SILICON VALLEY COMPUTER
140 Archer St.
San Jose, CA 95112
408-288-8837; TLX: 821-299

SILVER-REED AMERICA, INC.
19600 S. Vermont Ave.
Torrance, CA 90502
213-516-7008; 800-421-4191; 800-252-7760 (CA)

SIMPLE SOFTWARE, INC.
2 Pinewood
Irvine, CA 92714
714-857-9179

SIMUCAD
920 Incline Way, Bldg. 2, P.O. Box 3400
Incline Village, NV 89450
702-831-1399; TWX: 910-350-8122

SIMULATION SOFTWARE SYSTEMS
2470 Lone Oak Dr.
San Jose, CA 95121
408-270-2300

SIMWARE, INC.
14 Concourse Gate, Suite 100
Nepean, Ontario, CD K2E 7S6
613-727-1779; TLX: 053-4130

SINGER DATA PRODUCTS
790 Maple Lane
Bensenville, IL 60106
312-860-6500; TLX: 210-230

SIR, INC.
5215 Old Orchard Rd.
Skokie, IL 60077
312-470-9770

SKOK SYSTEMS, INC.
222 Third St.
Cambridge, MA 02142
617-868-6003; TLX: 275-086

SL WABER, INC.
(subsidiary of SL Industries, Inc.)
300 Harvard Ave.
Westville, NJ 08093
609-456-5400

SLICER COMPUTERS, INC.
2543 Marshall St., NE
Minneapolis, MN 55418
612-788-9481; TLX: 501-357 SLICER UD

SLT, INC.
2627 N.W. Nicolai
Portland, OR 97210
503-639-0330

THE SMALL COMPUTER CO., INC.
41 Saw Mill River Rd.
Hawthorne, NY 10532
212-398-9290; 800-847-4740; TLX: 238-790 NYK

SMARTEK, INC.
2000 Wyatt Dr., Suite 3
Santa Clara, CA 95054
408-988-4112; TLX: 317-994

SMINDUSTRIES, INC.
535 W. Wise Rd.
Schaumburg, IL 60193
312-894-5331

DAVID SMITH SOFTWARE
Old Rt. 12, RD 3, P.O. Box 25A
Oxford, NY 13830
607-843-6209

C. R. SMOLIN, INC.
7760 Fay Ave., Suite J
La Jolla, CA 92037
619-454-3404

SMT, INC.
1145 Linda Vista Dr.
San Marcos, CA 92069
619-744-3590

SNOW SOFTWARE CORP.
3330 Fisher Rd.
Clearwater, FL 33519
813-784-8899

SOCIAL AND SCIENTIFIC SYSTEMS, INC.
7101 Wisconsin Ave., Suite 610
Bethesda, MD 20814
301-986-4870

SOFCAP, INC.
364 Parsippany Rd., Unit 9
Parsippany, NJ 07054
201-386-5876

SOFISTRY, INC.
5252 Thorn Tree
Irvine, CA 92715
714-474-1466

SOFPAK, INC.
Kanatek Micro
101-215 Stafford Rd.
Ottawa, Ontario, CD K2H 9C1
613-726-1908

SOFT COMPUTER CONSULTANTS
864 Willis Ave.
Albertson, NY 11507
516-248-4411

SOFT & FRIENDLY
RR 2, Box 65
Solsberry, IN 47459
812-825-7384

SOFT GOLD, INC.
8835 S.W. Canyon Lane, Suite 300
Portland, OR 97225
503-297-5911; TLX: 182-737 HQ NPBH

SOFT LAB, INC.
P.O. Box 879
St. George, UT 84770
801-628-5400

SOFT SYSTEMS
P.O. Box 2405
Charlotte, NC 28211
704-542-5155; 800-345-3018

SOFT WAREHOUSE, INC.
3615 Harding Ave., Suite 505
Honolulu, HI 96816
808-734-5801; TLX: 650-241-7437

SOFTADVANCES
P.O. Box 49473
Austin, TX 78765
512-478-4763

SOFTCORP, INC.
2340 State Rd. 580, Suite 244
Clearwater, FL 33575
813-799-3984

SOFTCRAFT, INC. (TX)
P.O. Box 9802-917
Austin, TX 78766
512-346-8380; TLX: 358-200

SOFTCRAFT, INC. (WI)
222 State St., Suite 400
Madison, WI 53703
608-257-3300; 800-351-0500; TLX: 756-332

SOFTECH, INC.
460 Totten Pond Rd.
Waltham, MA 02254
617-890-6900

SOFTEK SERVICES, LTD.
5729 West Blvd., Suite 2
Vancouver, BC, CD V6M 3W8
604-263-2726; TLX: 04-352-848 VCR

SOFTEL, INC.
25 Maple Lane
East Hampton, NY 11937
212-677-6599

SOFTEXT PUBLISHING CORP.
17 East 45th St., Suite 605
New York, NY 10017
212-986-5985

SOFTFOCUS
1343 Stanbury Dr.
Oakville, Ontario, CD L6L 2J5
416-825-0903

SOFTGUARD SYSTEMS, INC.
2840 San Tomas Expwy., Suite 201
Santa Clara, CA 95051
408-970-9240

SOFTKEY SOFTWARE PRODUCTS, INC.
260 Richmond St., W, Suite 300
Toronto, Ontario, CD M5V 1W5
416-598-5033

SOFTKLONE DISTRIBUTING CORP.
1210 E. Park Ave.
Tallahassee, FL 32301
904-878-8564; TLX: 671-4280 KLON

SOFTLOGIC SOLUTIONS, INC.
530 Chestnut St.
Manchester, NH 03101
603-627-9900; 1-800-272-9900

SOFTOOL CORP.
340 S. Kellogg
Goleta, CA 93117
805-683-5777; TLX: 658-334

SOFTPOINT
1003 Crest Lane
Carnegie, PA 15106
412-279-4130

SOFTRAK SYSTEMS
1977 W. North Temple
Salt Lake City, UT 84116
801-531-8550

SOFTRONICS, INC.
7899 Lexington Dr., Suite 210
Colorado Springs, CO 80918
303-593-9540; 1-800-225-8590; TLX: 450-236

SOFTSTAR INTERNATIONAL, INC.
624 Fourth St.
Santa Rosa, CA 95404
707-527-0933

SOFTSTYLE, INC.
7192 Kalanianaole Hwy., Hawaii Kai Office Bldg., Suite 205
Honolulu, HI 96825
808-396-6368; TLX: 353-338

SOFTSYNC, INC.
162 Madison Ave.
New York, NY 10016
212-685-2080

SOFTWARE AG OF NORTH AMERICA, INC.
(wholly owned operating subsidiary of Software AG Systems, Inc.)
11800 Sunrise Valley Dr.
Reston, VA 22091
703-860-5050, Ext. 578; 1-800-336-3761; TLX: 899-122

SOFTWARE ARCHITECTURE AND ENGINEERING
1600 Wilson Blvd., Suite 500
Arlington, VA 22209
703-276-7910

SOFTWARE ASSOCIATES
6220 W. Airport Blvd.
Houston, TX 77035
713-726-0706

THE SOFTWARE BOTTLING CO. OF NEW YORK
6600 Long Island Expwy. Suite 308
Maspeth, NY 11378
718-458-3700

SOFTWARE BUILDING BLOCKS, INC.
P.O. Box 277
Newtonville, MA 02160
617-448-2364

SOFTWARE CLEARING HOUSE, INC.
771 Neeb Rd., P.O. Box 38206
Cincinnati, OH 45238
513-451-6742; TLX: 241-665

SOFTWARE CONCEPTS, INC. (CT)
1116 Summer St.
Stamford, CT 06905
203-357-0522

SOFTWARE CONNECTIONS, INC.
1435 Koll Circle, Suite 112
San Jose, CA 95112
408-293-3400; TLX: 350-599

SOFTWARE CONSULTANTS INTERNATIONAL
13812 Southeast 240th
Kent, WA 98042
206-631-4212

SOFTWARE CONSULTING SERVICE, INC.
8930 Fourwinds Dr., Suite 231
San Antonio, TX 78239
512-656-6484

SOFTWARE CONSULTING SERVICES
3162 Bath Pike
Nazareth, PA 18064
215-837-8484

SOFTWARE CONSULTING SPECIALISTS, INC.
P.O. Box 15367
Ft. Wayne, IN 46885
219-432-3975

SOFTWARE DESIGN SYSTEMS, INC.
1720 S. Orange Ave., Suite 302
Orlando, FL 32806
305-843-4455

SOFTWARE DESIGN TOOLS, INC.
6290 Sunset Blvd., Suite 1126
Los Angeles, CA 90028-8770
213-463-6102

SOFTWARE DEVELOPMENT FACTORY
P.O. Box 1106
Hunt Valley, MD 21030
301-666-8129

SOFTWARE DIRECTIONS, INC.
1572 Sussex Tpke.
Randolph, NJ 07869
201-584-8466

THE SOFTWARE ENGINEERING CO.
P.O. Box 836
Seattle, WA 98111
206-874-4121

SOFTWARE GARDEN, INC.
Dept. DS, P.O. Box 373
Newton Highlands, MA 02161
617-332-2240

THE SOFTWARE GUIDANCE CO., INC.
130 Freight St.
Waterbury, CT 06702
203-597-9012

SOFTWARE INNOVATIONS, INC. (CA)
P.O. Box 1074
Roswell, GA 30077-1074
404-587-1884

SOFTWARE INTEGRATION, INC.
9800 S. Sepulveda Blvd., Suite 310
Los Angeles, CA 90045
213-776-3404

SOFTWARE INTELLIGENCE LABORATORY, INC.
1593 Locust Ave.
Bohemia, NY 11716
516-589-1676; Telex: 880-304

SOFTWARE INTERNATIONAL CORP.
One Tech Dr.
Andover, MA 01810-2497
617-685-1400; 1-800-343-4133; 1-800-322-0491 (MA); TLX: 200-143

SOFTWARE IRELAND REPRESENTATIVES, INC.
27665 Forbes Rd.
Laguna Niguel, CA 92677
714-582-0233; TLX: 171-543

SOFTWARE KINETICS, LTD.
65 Iber Rd., P.O. Box 680
Stillsville, Ontario, CD K0A 3G0
613-831-0888

THE SOFTWARE LINK, INC.
8601 Dunwoody Place, NE, Suite 632
Atlanta, GA 30338
404-998-0700; TLX: 499-6147

SOFTWARE MARKETING ASSOCIATES
4615 Bee Caves Rd.
Austin, TX 78746
512-327-2882

SOFTWARE MASTERS (IN)
6223 Carrollton Ave.
Indianapolis, IN 46220
317-253-8088

SOFTWARE MERCHANTS UNLIMITED, INC.
3767 Overland Ave., Suite 112
Los Angeles, CA 90034
213-837-4456

SOFTWARE PRODUCTIVITY RESEARCH, INC.
2067 Massachusetts Ave.
Cambridge, MA 01940
617-495-0120

SOFTWARE PUBLISHING CORP.
1901 Landings Dr.
Mountain View, CA 94043
415-962-8910

SOFTWARE RESEARCH ASSOCIATES
P.O. Box 2432
San Francisco, CA 94126
415-957-1441; TLX: 340-235

SOFTWARE RESEARCH CORP.
One Natick Executive Park
Natick, MA 01760
617-655-1133

SOFTWARE RESEARCH TECHNOLOGY
2130 S. Vermont Ave.
Los Angeles, CA 90007-1654
213-737-7663

SOFTWARE SECURITY, INC.
870 High Ridge Rd.
Stamford, CT 06905
203-329-8870

SOFTWARE SOLUTIONS, INC. (CT)
12 Cambridge Dr.
Trumbull, CT 06611
203-374-8000; 800-243-5123

THE SOFTWARE STORE
706 Chippewa Sq.
Marquette, MI 49855
906-228-7622

SOFTWARE STUDIOS, INC.
8516 Sugarbush Court
Annandale, CA 22003
703-978-2339

SOFTWARE SYNERGY, INC.
466 Main St.
New Rochelle, NY 10801
914-633-0400; 800-654-TALK; TLX: 316-497 SSI CORP

SOFTWARE SYSTEMS CORP.
5766 Balcones Dr., Suite 203
Austin, TX 78731
512-451-8634

SOFTWARE SYSTEMS TECHNOLOGY, INC. (MD)
7100 Baltimore Ave., Suite 206
College Park, MD 20740
301-779-5486; TLX: 629-22799

SOFTWARE TECHNOLOGY
Rt. 13, Box 414
Cookeville, TN 38501
615-528-6915

THE SOFTWARE TOOLWORKS
14478 Glorietta Dr.
Sherman Oaks, CA 91423
818-986-4885

SOFTWARE 2000, INC. (CA)
1127 Hetrick Ave.
Arroyo Grande, CA 93420
805-489-1977; TLX: 658-541

SOFTWARE WEST, INC.
637 S. Wrightwood St.
Orange, CA 92669
714-542-5202

SOFTWAY, INC.
500 Sutter St., Suite 222
San Francisco, CA 94102
415-397-4666; TLX: 880-857

SOFTWEST PROGRAMMING
4418 E. Chapman, Suite 156
Orange, CA 92667
714-730-0666; 800-441-6666; TWX: 650-250-2780 MCIUW

SOFTWORDS
235-560 Johnson St.
Victoria, BC, CD V8W 3C6
604-381-5502; TLX: 049-7347

SOLA ELECTRIC
(unit of General Signal)
1717 Busse Rd.
Elk Grove Village, IL 60007
312-439-2800, Ext. 215; TLX: 280-538

SOLIDSTATE CONTROLS, INC.
875 Dearborn Dr.
Columbus, OH 43085
614-846-7500; TLX: 245-338

SOLTEC DISTRIBUTION
(subsidiary of Soltec Corp.)
P.O. Box 670
San Fernando, CA 91341-0670
818-764-5400; 800-525-5554

SOLUTION SYSTEMS
335 Washington St.
Norwell, MA 02061
617-659-1571; 800-821-2492

SOLUTION TECHNOLOGY, INC.
21301 Powerline Rd., Suite 309
Boca Raton, FL 33433
305-487-1880

SOLUTIONWARE CORP.
1283 Mountain View-Alviso Rd., Suite B
Sunnyvale, CA 94089
408-745-7818; TLX: 499-4264

SOLVATION, INC.
302 Turnpike Rd.
Southboro, MA 01772
617-481-9390

SONA SYSTEMS CORP.
8575 Willows Rd.
Redmond, WA 98052
206-883-1606

SONITURE, INC.
480 Vandell Way
Campbell, CA 95008
408-866-4616

SONY CORPORATION OF AMERICA
Microcomputer Products Division
9 West 57th St.
New York, NY 10019
212-371-5800

SOPHCO, INC.
1906 13th St., P.O. Box 7430
Boulder, CO 80306-7430
303-444-1542; 800-922-3001

SOPHOS INTEGRATED SYSTEMS, INC.
Alegreya Estate, P.O. Box 508
Accokeek, MD 20607
301-292-5585; 800-334-SISI

SOURCE DATA SYSTEMS, INC.
122 2nd St., SE, 300 SGA Bldg.
Cedar Rapids, IA 52401
319-366-7361

SOURCEMATE INFORMATION SYSTEMS
20 Sunnyside Ave.
Mill Valley, CA 94941
415-381-1011; 800-228-8896; 800-762-7788 (CA); TLX: 510-600-5270 ACCOUNTMATE

SOURCEVIEW SOFTWARE INTERNATIONAL
835 Castro St.
Martinez, CA 94553
415-680-0202; 800-443-0100, Ext. 440; TLX: 910-997-4213 SOURCEVIEW

SOUTHEASTERN SOFTWARE
7743 Briarwood Dr.
New Orleans, LA 70128
504-246-8438

SOUTHERN COMPUTER SYSTEMS, INC.
2732 7th Ave., S
Birmingham, AL 35233
205-251-2985; 800-533-6879; TLX: 755-714

SOUTHERN DATA SYSTEMS, INC.
5115 Holly Ridge Rd.
Raleigh, NC 27612
919-781-7603

SOUTHERN SYSTEMS, INC.
100 N. Belcher Rd.
Clearwater, FL 33575
813-441-1981; 800-327-5602; TLX: 522-135

SOUTHWEST DATA SYSTEMS
3017 San Fernando Blvd.
Burbank, CA 91504
818-841-1610

SOUTHWEST EDPSYCH SERVICES, INC.
P.O. Box 1870
Phoenix, AZ 85001
602-253-6528

SPARTACUS, INC.
847 Rogers St., One Lowell Research Center
Lowell, MA 01852
617-937-1600; 800-LAN-KNET; TLX: 948-513

SPEAK SOFTLY, INC.
303 Calvert Ave.
Clinton, SC 29325
803-833-5407

SPECIALIZED DATA SYSTEMS, INC.
2117 Continential Lane
Madison, WI 53704
608-241-5050; 800-ENTRY PC

SPECIALIZED SYSTEMS CONSULTANTS
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Seattle, WA 98155
206-FOR-UNIX; 206-367-8649

SPECTRAFAX CORP.
2000 Palm St.
Naples, FL 33962
813-775-2737

SPECTRUM CELLULAR CORP.
2710 Stemmons Frwy., 800 North Tower
Dallas, TX 75207
214-630-9825; 800-233-2119; TLX: 990-997-0987

SPECTRUM HOLOBYTE, INC.
1050 Walnut, Suite 325
Boulder, CO 80302
303-443-0191; TWX: 910-940-2506 HOLLOBYTE

SPECTRUM SOFTWARE
1021 S. Wolfe Rd., Suite 130
Sunnyvale, CA 94086
408-738-4387

SPECTRUM TECHNOLOGIES
212 North 32nd Ave.
Wausau, WI 54401
715-845-4217; 800-241-1715

SPEECH, LTD.
3790 El Camino Real, Suite 213
Palo Alto, CA 94306
415-941-2490

SPEED S CORP.
430 First Ave., N
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SPERRY CORP.
Information Systems Group
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Blue Bell, PA 19424
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SPIES LABORATORIES
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Lawndale, CA 90260
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SPRINGBOARD SOFTWARE, INC.
7808 Creekridge Circle
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612-944-3915

SPRINGTIME SOFTWARE SALES, INC.
8100 Balcones Dr., Suite 253
Austin, TX 78759
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SPS SOFTWARE PRODUCTS & SERVICES, INC.
14 East 38th St., 14th Floor
New York, NY 10016
212-686-3790; TLX: 825-616

SPSS, INC.
444 N. Michigan Ave.
Chicago, IL 60611
312-329-3500; TLX: 910-221-1396

SRAC
1661 Lincoln Blvd., Suite 100
Santa Monica, CA 90404
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SRITEK, INC.
6615 W. Snowville Rd.
Cleveland, OH 44141
216-526-9433; TLX: 298-215

SSR CORP.
1600 Lyell Ave.
Rochester, NY 14606
716-254-3200

SST SYSTEMS, INC.
355 W. Olive Ave.
Sunnyvale, CA 94086
408-773-1171; TLX: 171-200

STAFF COMPUTER TECHNOLOGY CORP.
990 Highland Dr., Suite 212L
Solana Beach, CA 92075
619-259-1313

STAG MICROSYSTEMS, INC.
528-5 Weddell Dr.
Sunnyvale, CA 94089
408-745-1991; 910-339-9607

STANDARD MICROSYSTEMS CORP.
35 Marcus Blvd.
Hauppauge, NY 11788
516-273-3100; TWX: 510-227-8898; TLX: 22-1646

STANDARD SOFTWARE SYSTEMS, INC.
3401 Via Dolce, Suite 704
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403-455-5995

STANFORD BUSINESS SOFTWARE, INC.
4151 Middlefield Rd., Suite 215
Palo Alto, CA 94303
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STANSFIELD & ASSOCIATES
1050 Maple St.
Burbank, CA 91505
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STANTON SOFTWARE
P.O. Box 173
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THE STANWICK CORP.
Operations and Maintenance Engineering Division
1401 Wilson Blvd.
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703-841-5000; TLX: 89-449

STAR GATE TECHNOLOGIES, INC.
33800 Curtis Blvd., Suite 109
East Lake, OH 44094
216-951-5922

STAR, INC. (SOFTWARE TECHNOLOGIES AND RESEARCH, INC.)
160 West St.
Cromwell, CT 06416-1930
203-529-7128; 800-258-STAR

STAR MICRONICS AMERICA, INC.
200 Park Ave., Pan Am Bldg., Suite 3510
New York, NY 10166
212-986-6770

STAR TECHNOLOGIES, INC.
8 Chrysler
Irvine, CA 92718
714-768-6460; TLX: 820-598

STARBRIDGE TECHNOLOGIES CORP.
1925 Century Park, E
Los Angeles, CA 90067
213-277-8324; 213-277-3163

STATE OF THE ART, INC.
3191-C Airport Loop
Costa Mesa, CA 92626
714-850-0111; 800-854-3415

STATEWIDE MICROELECTRONICS, INC.
10 East 22nd St.
Lombard, IL 60148
312-953-0060; 800-882-8311

STATISTICAL CONSULTANTS, INC.
462 E. High St.
Lexington, KY 40508
602-252-3890

STATISTICAL GRAPHICS CORP.
2 Wall St., Research Park
Princeton, NJ 08540
609-924-9374

STATSOFT, INC.
2832 East 10th St., Suite 4
Tulsa, OK 74104
918-583-4149

STB SYSTEMS, INC.
601 N. Glenville
Richardson, TX 75081
214-234-8750; TLX: 821-797

STEARNS COMPUTER SYSTEMS
10371 West 70th St., P.O. Box 9384
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612-829-0361; TLX: 882-792

STELLA SYSTEMS, INC.
10430 S. De Anza Blvd., Suite 185
Cupertino, CA 95014
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P.O. Box 10183
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Dylakor Division
17418 Chatsworth St., P.O. Box 3010
Granada Hills, CA 91344-0075
818-366-1781; TWX: 910-333-4375 DYLAKOR ISA

STERLING SOFTWARE
System Software Marketing Division
11050 White Rock Rd., Suite 100
Rancho Cordova, CA 95670-6095
916-635-5535; 800-824-8512; TLX: 377-314

STILWELL SOFTWARE PRODUCTS
16403 North 43rd Dr.
Glendale, AZ 85306
602-978-4678

STM ELECTRONICS CORP.
535 Middlefield Rd., Suite 250
Menlo Park, CA 94025
415-326-6226

STOCHOS, INC.
14 College St.
Schenectady, NY 12305
518-372-5426; 1-800-426-4014

STOK SOFTWARE, INC.
17 West 17th St.
New York, NY 10011
212-243-1444

STOLZBERG RESEARCH, INC.
3 Seabrook Court
Stony Brook, NY 11790
516-751-4277

STONER ASSOCIATES, INC.
P.O. Box 86
Carlisle, PA 17013
717-243-9212; TLX: 804-294 SPEDEX

STRAIGHTFORWARD
15000 Halldale Ave., Suite 115
Gardena, CA 90247-3153
800-553-3332; 800-237-9680 (CA)

STRATCOM SYSTEMS, INC.
4901 Morena Blvd., Suite 113
San Diego, CA 92117
619-483-9292

STRATEGIC LOCATIONS PLANNING, INC.
4030 Moorpark Ave., Suite 123
San Jose, CA 95117
408-985-7400

STRATEGIC SOFTWARE PLANNING CORP.
245 First St.
Cambridge, MA 02142
617-577-8800; 1-800-821-8346; TLX: 380-159 STRATSOFT CORP

STRATIX
P.O. Box 4413
Burlingame, CA 94011
415-697-0573

STRATUS COMPUTER, INC.
55 Fairbanks Blvd.
Marlboro, MA 01752
617-460-2000

STRAWBERRY TREE COMPUTERS
1010 W. Fremont Ave.
Sunnyvale, CA 94087
408-736-3083

STREET ELECTRONICS CORP.
1140 Mark Ave.
Carpinteria, CA 93013
805-684-4593

STRESS ANALYSIS ASSOCIATES, INC.
285 N. Hill Ave., Suite 201
Pasadena, CA 91106
213-684-2478

STRUCTSOFT, INC.
24 Homer St.
Parsippany, NJ 07054
201-292-9889

STRUCTURAL ANALYSIS, INC.
30 Southeast 7th St., Suite D-2
Boca Raton, FL 33432
305-392-6597

STRUCTURAL DATA, INC.
17292 Goldenwest
Huntington Beach, CA 92647
714-841-9938

STRUCTURAL MEMBERS USERS GROUP
University Station, P.O. Box 3958
Charlottesville, VA 22903
804-296-4906

STRUCTURAL SOFTWARE SYSTEMS
4440 Gateway Dr.
Monroeville, PA 15146
412-325-4117

STRUCTURAL SOFTWARE, INC.
23-37 30th Dr.
Astoria, NY 11102
201-316-0060

STRUCTURED SOFTWARE SOLUTIONS, INC.
4031 W. Plano Pkwy., Suite 205
Plano, TX 75075
214-985-9901

STRUCTURED SYSTEMS GROUP, INC.
111 Broadway, Suite 203
Oakland, CA 94607
415-268-1488

STSC, INC.
2115 E. Jefferson St.
Rockville, MD 20852
301-984-5000; TLX: 898-085

S2D, INC.
7600 Camberford Place
Rockville, MD 20855
301-670-1009

THE SUCCESS PRESS
P.O. Box 2795
Des Plaines, IL 60017
312-253-2809

SUCCESS SOFTWARE
14252 Culver Dr., Suite 448
Irvine, CA 92714
714-551-6224

SUGAR MILL SOFTWARE CORP.
1180 Kika Place
Kailua, HI 96734
808-261-7536; 800-367-8047, Ext. 261

SUMITRONICS, INC.
(subsidiary of Sumitomo Corp.)
580 N. Pastoria Ave.
Sunnyvale, CA 94086
408-737-7683; TLX: 278-869 STRO UR

SUMMA FOUR
2456 Brown Ave.
Manchester, NH 03103
603-625-4050

SUMMA TECHNOLOGIES, INC. (OR)
P.O. Box 2046
Beaverton, OR 97075
503-644-3212; 800-792-2211

SUMMAGRAPHICS CORP.
777 State St. Ext.
Fairfield, CT 06430
203-384-1344; TLX: 964-348

SUMMIT SOFTWARE TECHNOLOGY, INC.
106 Access Rd.
Norwood, MA 02062
1-800-225-5800

SUMO SYSTEMS
1580 Old Oakland Rd., Suite C103
San Jose, CA 95131
408-286-5744

SUMTECH, LTD.
641 St. Clair Ave., W, P.O. Box 1
Toronto, Ontario, CD M6C 2S2
416-444-7609

SUN-FLEX CO., INC.
20A Pimentel Court
Novato, CA 94947
415-883-1221; TLX: 172-208

SUN MICROSYSTEMS, INC.
2550 Garcia Ave.
Mountain View, CA 94043
415-960-1300; 800-821-4643; 800-821-4642 (CA); TLX: 287-815

SUN RESEARCH, INC.
Old Bay Rd., P.O. Box 210
New Durham, NH 03855
603-859-7110; 800-443-1922

SUN VALLEY SYSTEMS
844 Sun Valley Rd.
Birmingham, AL 35215
205-853-8440

SUNBELT COMPUTER SYSTEMS, INC.
5555 East 71st St., Suite 8-210
Tulsa, OK 74136
918-495-0670; 800-331-9163

SUNCOAST/EASYCOM
P.O. Box 23101
Nashville, TN 37202
615-244-5397; TLX: 387-241 SUNCOMP

SUNDANZ WORLD TRADE, LTD.
630 N. Craycroft, Suite 112
Tucson, AZ 85711
602-745-0904

SUNDERLAND SOFTWARE ASSOCIATES
P.O. Box 7000-64
Redondo Beach, CA 90277
213-540-2567; 800-628-2828, Ext. 502

SUNNY HILL SOFTWARE
13732 Midvale, N, Suite 206
Seattle, WA 98133
206-367-0650; 800-367-0651

SUNNYVALE COMMUNICATIONS CO.
1308 Borregas Ave.
Sunnyvale, CA 94088
408-752-5095

SUNOL SYSTEMS
1177 Quarry Lane, P.O. Box 1777
Pleasanton, CA 94566
415-484-3322; TLX: 703-175

SUNRAY SALES, INC.
1112A E. First St.
Ft. Worth, TX 76102
817-338-1217

SUNSET SOFTWARE
1613 Chelsea Rd., Suite 153
San Marino, CA 91108
818-284-4763

SUPER COMPUTER, INC.
140 Savarona Way
Carson, CA 90746
213-532-2133; TLX: 371-9394

SUPERCOM
3685 Enochs St.
Santa Clara, CA 95051
408-773-9393; TLX: 296-648 SUPERCOM

SUPERIOR ELECTRIC CO.
383 Middle St.
Bristol, CT 06010
203-582-9561; TLX: 962-446

SUPERIOR MACHINERY CO.
Hwy. 28, E
Morris, MN 56267
612-589-3876

SUPERSET, INC.
11025 Roselle St.
San Diego, CA 92121
619-452-8665; TWX: 499-4228

SUPERSOFT, INC.
510 W. Pack Ave., P.O. Box 1628
Champaign, IL 61820
217-359-2112; 800-762-6629; TLX: 270-365

SUPRA CORP.
1133 Commercial Way
Albany, OR 97321
503-967-9075

SURGEONICS, LTD.
50 Pine St.
Hudson Falls, NY 12839
518-747-2156

SUS ENGINEERING
1543 Kennewick Dr.
Sunnyvale, CA 94087
408-245-7030; TLX: 371-6987

SWANSON ANALYSIS SYSTEMS, INC.
Johnson Rd., P.O. Box 65
Houston, PA 15342-0065
412-746-3304; TLX: 510-690-8655

SWINTEC CORP.
23 Poplar St.
East Rutherford, NJ 07073
201-935-0115

SYDNEY DEVELOPMENT CORP.
1385 West 8th Ave., Suite 600
Vancouver, BC, CD V6H 3V9
604-734-8822

SYFA DATA SYSTEMS CORP.
P.O. Box 851077
Richardson, TX 75085-1077
214-783-0993, Ext. 288; 800-527-3419; TLX: 463-0023

SYMBIOTICS
431 Mishler Rd.
Mogadore, OH 44260
216-699-4978

SYNCHRONY SYSTEMS
4191 San Juan Ave.
Jacksonville, FL 32210
800-237-6360; 800-282-1152, Ext. 314

SYNERCOM TECHNOLOGY, INC.
10405 Corporate Dr., P.O. Box 27
Sugar Land, TX 77478
713-240-5000; TLX: 775-619

SYNERGISTIC SYSTEMS, INC.
870 High Ridge Rd.
Stamford, CT 06905
203-329-7313

SYNERGY
1137 Pomeroy Ave.
Santa Clara, CA 95051
408-241-5435

SYNERLOGIC, INC.
635 8th Ave., SW, Suite 1300
Calgary, Alberta, CD T2P 3M3
403-237-6500

SYNEX SYSTEMS CORP.
1176 W. Georgia St., Suite 800
Vancouver, B.C., CD V6E 3H4
604-688-8271

SYNTAX SYSTEMS, INC.
6642 South 193rd Place, Suite N107
Kent, WA 98032
206-251-8438

SYNTEL
5940 Amapola Dr.
San Jose, CA 95129
408-996-2780

SYNTEST CORP.
40 Locke Dr.
Marlboro, MA 01752
617-481-7827

SYNTREX, INC.
246 Industrial Way, W
Eatontown, NJ 07724
201-542-1500, Ext. 202; 800-526-2829

SYQUEST TECHNOLOGY
47923 Warm Springs Blvd.
Fremont, CA 94539
415-490-7511; TLX: 910-381-7027

SYS COMP CORP.
(an Easinet Co.)
9977 Jefferson Blvd.
Culver City, CA 90230
213-204-1175

SYSCODE, INC.
350 S. Crenshaw Blvd., Suite A102
Torrance, CA 90503
213-533-0992; 800-445-4396

SYSCOM, INC.
470-B Lakeside Dr.
Sunnyvale, CA 94086
408-736-7320

SYSGEN, INC. (CA)
47853 Warm Springs Blvd.
Fremont, CA 94539
415-490-6770; 800-821-2151; TLX: 499-0843

SYSSCAN, INC.
100 Jericho Quadrangle
Jericho, NY 11753
516-937-0002

SYSTAT, INC.
2902 Central St.
Evanston, IL 60201
312-864-5670

SYSTECON
9800 Medlock Bridge Rd.
Duluth, GA 30136
404-476-4831

SYSTEK, INC.
P.O. Drawer 6234
Mississippi State, MS 39762
601-323-6905

SYSTEM AUTOMATION SOFTWARE, INC.
8555 16th St.
Silver Spring, MD 20910
301-565-8080; 800-321-DBMS; TLX: 509-636

SYSTEM ENGINEERING TOOLS, INC.
645 Arroyo Dr.
San Diego, CA 92103
619-692-9464

SYSTEM FACILITIES, INC.
P.O. Box 7079
Charlottesville, VA 22906
804-977-5245

SYSTEM SOLUTIONS ASSOCIATES
P.O. Box 8007
Minneapolis, MN 55408
612-825-7556

SYSTEMAT CORP.
19715 Gravina St.
Rowland Heights, CA 91748
714-594-9567

SYSTEMATE, INC.
1106 Clayton, Suite 200E
Austin, TX 78723
512-458-6202

SYSTEMATICS, INC.
Software Marketing Division
4001 Rodney Parham Rd.
Little Rock, AR 72212
501-223-5355

SYSTEMS AND SOFTWARE, INC.
7825 E. Redfield Rd.
Scottsdale, AZ 85260
602-948-7313; TLX: 530-263 OMEGA UD

SYSTEMS ASSOCIATES, INC. (OH)
500 Lehman Ave.
Bowling Green, OH 43402
419-354-3909

THE SYSTEMS CENTER
1320 Greenway Dr., Suite 300
Irving, TX 75038
214-550-0318; TLX: 494-4550 SYSCTR

SYSTEMS GUILD, INC.
P.O. Box 1085
Cambridge, MA 02142
617-451-8479

SYSTEMS MANAGEMENT ASSOCIATES, INC.
3325 Executive Dr., Suite 210
Raleigh, NC 27609
919-878-3600; 800-762-7874

SYSTEMS MODELING CORP.
Calder Sq., P.O. Box 10074
State College, PA 16805
814-238-5919; TLX: 856-775

SYSTEMS PERIPHERALS CONSULTANTS
9749 Businesspark Ave.
San Diego, CA 92131
619-693-8611

SYSTEMS & SOFTWARE, INC. (CA)
3303 Harbor Blvd., Suite C-11
Costa Mesa, CA 92626
714-241-8650; TLX: 910-695-0125

SYSTEMWARE, INC.
(division of System Enterprises, Inc.)
12770 Coit Rd.
Dallas, TX 75251-1306
214-239-0200

SYSTONETICS, INC.
801 E. Chapman Ave.
Fullerton, CA 92631
714-680-0910; TLX: 692-327

SYTEK, INC.
1225 Charleston Rd.
Mountain View, CA 94043
415-966-7400; TLX: 276-572 SYTEK UR

T-BAR, INC.
141 Danbury Rd., P.O. Box T
Wilton, CT 06897
203-834-8227; TWX: 710-479-3216; TLX: 681-9129

TAB PRODUCTS CO.
Electronic Office Products
1400 Page Mill Rd.
Palo Alto, CA 94304
415-852-2400

TACHYON CORP.
2725 Congress St., Suite 2H
San Diego, CA 92110
619-299-4712

TACT TECHNOLOGY
100 North 20th St.
Philadelphia, PA 19103
215-569-1300; 800-523-0103

TACTICAL ELECTRONICS CORP.
P.O. Box 1743
Melbourne, FL 32902
305-676-6907; TLX: 568-254

TALARIS SYSTEMS, INC.
5160 Carroll Canyon Rd., P.O. Box 261580
San Diego, CA 92126
619-587-0787; TLX: 499-7906

TALBOTT DEVELOPMENT CORP.
2545 Chandler Ave., Suite 7
Las Vegas, NV 89120
800-258-0868; 702-795-8815

TALL TREE SYSTEMS
1032 Elwell Court, Suite 124
Palo Alto, CA 94303
415-964-1980

TALLGRASS TECHNOLOGIES CORP.
11100 West 82nd St.
Overland Park, KS 66214
913-492-6002

TAMP COMPUTER SYSTEMS, INC.
1732 Remson Ave.
Merrick, NY 11566
516-623-2038

TANDEM COMPUTERS, INC.
19333 Vallco Pkwy.
Cupertino, CA 95014-2599
408-725-6000; TLX: 171-648 TANDEM CPTO

TANDON CORP.
20320 Prairie St., P.O. Box 2107
Chatsworth, CA 91311
818-993-6644; TLX: 194-794

TANDY/RADIO SHACK
1800 One Tandy Center
Ft. Worth, TX 76102
817-390-2197

TANGENT TECHNOLOGIES
5720 Peachtree Pkwy., Suite 100
Norcross, GA 30092
404-662-0366

TANOAK SOFTWARE, INC.
878 Brookline Dr.
Sunnyvale, CA 94087
408-738-8339

TARA DATA SYSTEMS, INC.
P.O. Box 1785
Auburn, AL 36830
205-826-6047

THE TARI GROUP
205 West 700 South
Salt Lake City, UT 84101
801-355-6575

TAT GRAPHICS GROUP, INC.
1270 Lawrence Station Rd., Bldg. E
Sunnyvale, CA 94089
408-734-2202

TATUM LABS
33 Main St.
Newtown, CT 06470
203-426-2184

TATUNG CO. OF AMERICA
2850 El Presidio St.
Long Beach, CA 90810
213-637-2105; 213-979-7055; TWX: 910-346-6710 USTLB LGB; TLX: 472-0341 USTATUNG

GP TAURIO, INC.
1901 N. Beauregard St.
Alexandria, VA 22311
703-845-4440

TAURUS COMPUTER PRODUCTS, INC.
1755 Woodward Dr.
Ottawa, Ontario, CD K2C 0P9
613-226-5361; TLX: 053-3577

TAVA U.S.A., INC.
445 Park Ave.
Brooklyn, NY 11205
718-596-4100

TAXAN CORP.
18005 Cortney Court
City of Industry, CA 91748
818-810-1291; TLX: 910-584-3851

TAYSON INFORMATION TECHNOLOGY, INC.
275 Comstock Rd.
Scarborough, Ontario, CD M1L 2H2
416-288-0550

TCS SOFTWARE, INC.
6100 Hillcroft, Suite 600
Houston, TX 77081
713-771-6000; 1-800-231-6454

TDA, INC.
445-A Carlisle Dr.
Herdon, VA 22070
703-437-4148

TEAC CORP. OF AMERICA (TCA)
7733 Telegraph Rd.
Montebello, CA 90640
213-726-0303; TLX: 677-014

TEAL COMMUNICATIONS INTERNATIONAL, INC.
314 E. Holly St.
Bellingham, WA 98225
604-984-4411; WUI-650-254-8623

TECH DESIGNS, INC.
10024 Culverne Rd.
Ellicott City, MD 21043
301-465-8186

TECH PC
2131 S. Hathaway
Santa Ana, CA 92705
714-754-1170; TLX: 272-006

TECH SKETCH, INC.
26 Just Rd.
Fairfield, NJ 07006
201-256-0410

TECHART ASSOCIATES
1311 McKenzie Ave.
Los Altos, CA 94022-5629
415-967-4200

TECHDATA
6615 La Mora
Houston, TX 77083
713-498-0797

TECHLAND SYSTEMS, INC.
(subsidiary of York Research Corp.)
25 Waterside Plaza
New York, NY 10010
212-684-7788; 1-800-TECHLAND; TLX: 961-134

TECHNETRONIC USA, INC.
1810 Michael Faraday Dr., Suite 101
Reston, VA 22090
703-356-2151

TECHNICAL COMMUNICATIONS CORP.
100 Domino Dr.
Concord, MA 01742
617-862-6035; TLX: 923-407

TECHNICAL RESEARCH SERVICES, INC.
7301 W. Cameron
Tulsa, OK 74127
918-245-6241

TECHNICAL SOFTWARE, INC.
28790 Chagrin Blvd., Suite D
Cleveland, OH 44122
216-765-1133

TECHNISOFT
1710 Allied St., Suite 37
Charlottesville, VA 22901
804-979-6464

TECHNOLINKS INTERNATIONAL, INC.
485 5th Ave., Suite 518
New York, NY 10017
212-818-0680; TLX: 175-818

TECHNOLOGICAL SYSTEMS GROUP, INC.
P.O. Box 870009
Stone Mountain, GA 30087-0018
404-923-4980; TLX: 650-249-1965

TECHNOLOGY CONCEPTS, INC.
40 Tall Pine Dr.
Sudbury, MA 01776
617-443-7311; TLX: 517-682

TECHNOLOGY RESEARCH CORP.
8328-A Traford Lane, Springfield Professional Park
Springfield, VA 22152
703-451-8830

TECHSOFT
4257 Burning Tree Lane
Garland, TX 75042
214-272-4786

TECMAR, INC.
6225 Cochran Rd.
Solon, OH 44139
216-349-1009; TLX: 466-692

TECNOMICS, INC.
100 Ardmore St.
Blacksburg, VA 24060
800-368-3532; 800-552-1821 (VA)

TECO AMERICAN, INC.
(subsidiary of Teco Electric & Machinery Co., Ltd.)
853 E. Sandhill Ave.
Carson, CA 90746
213-770-6680; TWX: 910-346-6324

TECONOMICS, INC.
916-8th Ave., SW
Calgary, Alberta, CD T2P 1H8
403-263-9993

TEK-COM CORP.
120 Charcot Ave.
San Jose, CA 95131
408-435-9515; TLX: 277-216

TEKNIKA ELECTRONICS CORP.
353 Rt. 46, W
Fairfield, NJ 07006
201-575-0380; 800-835-6452

TEKNOWLEDGE, INC.
525 University Ave.
Palo Alto, CA 94301
415-327-6640

TEKTON SYSTEMS, INC.
1420 Quail St.
Lakewood, CO 80215
303-233-4834

TELCO RESEARCH CORP.
1207 17th Ave., S
Nashville, TN 37212-2899
615-329-0031; 615-320-6124

TELE-SIGNAL CORP.
185 Oser Ave.
Hauppauge, NY 11788
516-273-3939

TELE VEND, INC.
111 Croydon Rd., P.O. Box 11079
Baltimore, MD 21212
301-532-9079

TELEBIT CORP.
10440 Bubb Rd., P.O. Box 4040
Cupertino, CA 95014
408-996-8000

TELEBYTE TECHNOLOGY, INC.
Remark Datacom Division
270 E. Pulaski Rd.
Greenlawn, NY 11740
516-423-3237; 800-835-3298; TLX: 510-226-0449

TELEBYTE TECHNOLOGY, INC.
TDX Peripherals Division
270 E. Pulaski Rd.
Greenlawn, NY 11740
516-423-3232; 800-835-3298; TWX: 510-226-0449

TELECOM MANAGEMENT
3844 Convention St.
Baton Rouge, LA 70806
504-383-4164

TELECOM SOFTWARE
1801 East 12th, Suite 1615
Cleveland, OH 44114
216-241-1329; 216-641-2968

TELECOM TERMINAL SYSTEMS
621 Hindry Ave.
Inglewood, CA 90301
213-641-8111; TLX: 371-5831

TELECOMMUNICATION SYSTEM TECHNOLOGY, INC.
Tele-Tech Services Division
P.O. Box 757
McAfee, NJ 07428
201-827-4421

TELECOMPUTE INTEGRATED SYSTEMS, INC.
34 Kelfield St.
Rexdale, Ontario, CD M9W 5A2
416-241-3511

TELEDYNE BIG BEAM
P.O. Box 518
Crystal Lake, IL 60014
815-459-6100

TELEFILE COMPUTER PRODUCTS, INC.
(subsidiary of Telefile Computer Corp.)
17131 Daimler St.
Irvine, CA 92714
714-250-1830; TLX: 685-660

TELENETICS CORP.
895 E. Yorba Linda Blvd.
Placentia, CA 92670
714-524-5770

TELESENSORY SYSTEMS, INC.
455 N. Bernado Ave., P.O. Box 7455
Mountain View, CA 94039-7455
800-227-8418; TLX: 278-838 TSI UR

THE TELESYS GROUP, INC.
5455 Wingborne Court
Columbia, MD 21045
301-997-7848

TELEVIDEO SYSTEMS, INC.
1170 Morse Ave.
Sunnyvale, CA 94088
408-745-7760; 800-821-3774 (CA)

TELEX COMPUTER PRODUCTS, INC.
(subsidiary of Telex Corp.)
6422 East 41st
Tulsa, OK 74135
918-627-1111

TELEX COMPUTER PRODUCTS, INC.
Word Processing Division
6564 Loisdale Court, Suite 725
Springfield, VA 22150
703-922-5060

TELEXPRESS, INC.
Rt. 130 & Beverly-Rancocas Rd.,
P.O. Box 217
Willingboro, NJ 08046
609-877-4900

TELION SOFTWARE
P.O. Box 1464
La Mirada, CA 90637-1464
213-946-1015

TELTONE CORP.
10801 Northeast 120th Ave.
Kirkland, WA 98033-0657
206-827-9626; 800-227-3800, Ext. 1122

TELXON CORP.
3330 W. Market St.
Akron, OH 44313
216-666-6751; 800-222-3330 (OH); 800-321-2424

TEMPEST TECHNOLOGIES, INC.
11411 Isaac Newton Sq., S
Reston, VA 22090
703-471-0157

TEMPLATE GRAPHICS SOFTWARE
(division of Megatek Corp.)
9645 Scranton Rd.
San Diego, CA 92121
619-457-5359; TWX: 910-337-1270

TEO SYSTEMS, INC.
275 E. Steelcase Rd.
Markham, Ontario, CD L3R 1G3
416-474-9372; TWX: 069-86867 CATEO

TERADO CORP.
1068 Raymond Ave.
St. Paul, MN 55108
612-646-2868

TERADYNE, INC.
321 Harrison Ave.
Boston, MA 02118
617-482-2700

TERAK CORP.
14151 North 76th St.
Scottsdale, AZ 85260
602-998-4800; 800-647-1655; TWX: 910-450-0093

TESSERA
47911 Westinghouse Dr.
Fremont, CA 94539
415-651-7711

TESSERACT CORP.
101 Howard St., P.O. Box 7658
San Francisco, CA 94120
415-543-9320

TEXAS INSTRUMENTS
P.O. Box 655012, Mail Station 57
Dallas, TX 75265
800-232-3200; TLX: 73-324 TEXINS DAL

TEXET CORP.
37 Broadway
Arlington, MA 02174
617-641-2900

T.G. PRODUCTS, INC.
1300 E. Cotton, P.O. Box 8248
Longview, TX 75607
214-758-8874

TGL, INC.
4400 Sulphur Springs Rd.
Corvallis, OR 97330
503-745-7476; 503-758-2457

THEALL ENGINEERING CO.
P.O. Box 167
Oxford, PA 19363
215-932-3488

THEOS SOFTWARE CORP.
201 Lafayette Circle, Suite 100
Lafayette, CA 94549-4370
415-283-4290

THESYS MEMORY PRODUCTS CORP.
7345 E. Acoma Dr.
Scottsdale, AZ 85260
602-991-7356; TLX: 751-933

THETA SCIENTIFIC, INC.
P.O. Box 84108
Fairbanks, AK 99708
907-479-4540

THOMPSON AUTOMATION
P.O. Box 5163
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503-645-9434

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1105 N.W. Circle Blvd.
Corvallis, OR 97330
503-758-0521; TLX: 469-570

VIEHMANN CORP.
451 Andover St.
North Andover, MA 01845
617-689-3404

VIEWLOGIC SYSTEMS, INC.
33 Boston Post Rd., W
Marlboro, MA 01752
617-480-0881; TLX: 174-242

VIKING SOFTWARE SERVICES, INC.
2815 E. Skelly Dr., Suite 816
Tulsa, OK 74105
918-745-6550

VIRGINIA TEK, INC.
360 Herndon Pkwy.
Herndon, VA 22070
703-471-5188

VIRTUAL MICROSYSTEMS, INC.
2150 Shattuck Ave., Suite 300
Berkeley, CA 94704
415-841-9594; TLX: 499-1034
VIRTUAL MICRO

VISIBLE SYSTEMS CORP.
336 Baker Ave.
Concord, MA 01742
617-369-1800

VISION RESEARCH
1590 Old Oakland Rd., Suite B-112
San Jose, CA 95131
408-298-8700

VISION SYSTEM, INC.
2 University Plaza
Hackensack, NJ 07601
201-487-7000

VISIONARY ELECTRONICS, INC.
141 Parker Ave.
San Francisco, CA 94118
415-751-8811

VISIONICS CORP.
1284 Geneva Dr.
Sunnyvale, CA 94089
408-745-1551; TLX: 346-352

VISUAL AGE
642 N. Larchmont Blvd.
Los Angeles, CA 90004
213-534-4202; 800-732-2345

VISUAL COMMUNICATIONS NETWORK, INC.
238 Main St.
Cambridge, MA 02142
617-497-4000

VISUAL DATA ENTERPRISES
P.O. Box 1674
West Covina, CA 91793
818-918-8834

VISUAL ENGINEERING, INC.
2680 N. First St., Suite 200
San Jose, CA 95134
408-945-9055

VISUAL HORIZONS
180 Metro Park
Rochester, NY 14623
716-424-5300

VISUAL INTELLIGENCE CORP.
160 Old Farm Rd., Amherst Fields Research Park
Amherst, MA 01002
413-253-3482

VISUAL NUMERICS, INC.
P.O. Box 1726
Novato, CA 94948
415-892-2713

VM PERSONAL COMPUTING, INC.
41 Kenosia Ave.
Danbury, CT 06810
203-798-3800; 800-222-VMPC

VMI - VERMONT MICROSYSTEMS, INC.
11 Tigan St., P.O. Box 236
Winooski, VT 05404-0236
802-655-3800

VOICE OPERATED COMPUTER SYSTEMS (VOCS)
301 Shelard Pkwy., Suite 242
St. Louis Park, MN 55426
612-544-5712

VON GUNTEN ENGINEERING SOFTWARE, INC.
P.O. Box 8813
Ft. Collins, CO 80525
303-223-8788

VON LEIVENDYKE ENTERPRISES
Silvermine Ave.
Norwalk, CT 06850
203-846-4973

VOTAN
4487 Technology Dr.
Fremont, CA 94538
415-490-7600; TLX: 176-274

VOTRAX, INC.
1394 Rankin Dr.
Troy, MI 48083
313-588-2050; TWX: 810-232-4140
VOTRAX TRMI

VOXTRON SYSTEMS, INC.
(subsidiary of Detex Corp.)
190 S. Seguin
New Braunfels, TX 78130
512-629-4807

VOYAGER DEVELOPMENT, INC.
412 S. Lyon St.
Santa Ana, CA 92701
714-667-8128; 800-443-6888

VUTEK SYSTEMS, INC.
10855 Sorrento Valley Rd.
San Diego, CA 92121
619-587-2800

VYNET CORP.
180 Knowles Dr.
Los Gatos, CA 95030
408-370-0555; 408-370-9764; 800-538-7002

WALKER RICHER AND QUINN, INC.
2825 Eastlake Avenue E
Seattle, WA 98102
206-324-0350

WALLACE COMPUTER SERVICES, INC.
Business Data Division
4600 W. Roosevelt Rd.
Hillside, IL 60162
312-449-8600; TLX: 910-234-4464

WALLSOFT SYSTEMS, INC.
233 Broadway, Suite 869
New York, NY 10279
212-406-7026; 800-23d-FLOW

WALONICK ASSOCIATES, INC.
6500 Nicollet Ave., S
Minneapolis, MN 55423
612-866-9022; 800-328-4907

WANG INSTITUTE OF GRADUATE STUDIES
School of Information Technology
Tyng Rd.
Tyngsboro, MA 01879
617-649-9731

WANG LABORATORIES, INC.
One Industrial Ave.
Lowell, MA 01851
617-459-5000; 1-800-835-9264;
TLX: 947-421; TWX: 710-343-6769

WANGTEK, INC.
41 W. Moreland Rd.
Simi Valley, CA 93065
805-583-5255; TWX: 910-494-1926;
TLX: 650-450

WARP SPEED COMPUTER PRODUCTS, INC.
5555 S. Inglewood Blvd.
Los Angeles, CA 90230
213-822-0647; 800-826-1563 (CA);
800-874-4315; TLX: 494-9554
WARP SPEED

WARREN COMMUNICATIONS
(a unit of General Signal)
Newtown Rd.
Littleton, MA 01460
617-486-9551; TWX: 710-347-0650

WATCOM PRODUCTS, INC.
415 Phillip St.
Waterloo, Ontario, CD N2L 3X2
519-886-3700; TLX: 06-955458

WATERLOO MICROSYSTEMS, INC.
175 Columbia St., W
Waterloo, Ontario, CD N2L 5Z5
519-884-3141; TLX: 06-957520

WAYMAN AND ASSOCIATES, INC.
217 S. Pacific Coast Hwy., P.O. Box 3134
Redondo Beach, CA 90277
213-379-2453

WEBCO, INC.
1112 I St., Suite 380
Sacramento, CA 95814
916-447-7755

WEBER MARKING SYSTEMS
711 W. Algonquin Rd.
Arlington Heights, IL 60005
312-364-8500

WELCH ALLYN
Industrial Products Division
Jordan Rd.
Skaneateles Falls, NY 13153-0187
315-685-8351; TLX: 325-435

WELCOM SOFTWARE TECHNOLOGY
1325 S. Dairy Ashford, Suite 375
Houston, TX 77077
713-558-0514; TLX: 510-600-8282

WELLS AMERICAN
3243 Sunset Blvd.
West Columbia, SC 29169
803-796-7800; TWX: 510-601-2645

WELTEC DIGITAL, INC.
2991 White Star
Anaheim, CA 92806
714-630-7020; TLX: 472-2112

WENDIN, INC.
P.O. Box 266
Cheney, WA 99004
509-235-8088

WEST COAST CONSULTANTS
4202 Genesee Ave., Suite 309
San Diego, CA 92117
619-565-1266

WEST END FILM, INC.
1825 Q St., NW
Washington, DC 20009
202-232-7733

WESTERN COMPUTER
1381 Warner Ave., Warner Corporate Park, Suite B
Tustin, CA 92680
714-544-4740

WESTERN DATACOM
5083 Market St.
Youngstown, OH 44512
216-788-6583; TLX: 910-333-8609

WESTERN DIGITAL CORP.
2445 McCabe Way
Irvine, CA 92714
714-863-0102; TLX: 910-595-1139

WESTERN GRAPHTEC, INC.
12 Chrysler St.
Irvine, CA 92718
714-770-6010; 800-854-8385

WESTERN TELECOMPUTING CORP.
202 E. Kagy Blvd.
Bozeman, MT 59715
406-586-1511; 1-800-423-0587

WESTERN UNION TELEGRAPH CO.
(subsidiary of Western Union Corp.)
One Lake St.
Upper Saddle River, NJ 07458
201-825-5000; 201-934-0200 (Field Service Div.); TLX: 642-474

WESTERN WARES
P.O. Box C
Norwood, CO 81423
303-327-4898

WESTFORD SYSTEMS, INC.
P.O. Box 26
Still Rvier, MA 01467
617-456-3466

WESTLAKE DATA CORP.
505 West 15th
Austin, TX 78701
512-474-4666; 800-628-2828, Ext. 555

WESTMINSTER SOFTWARE, INC.
2570 El Camino Real, Suite 400
Mountain View, CA 94040
415-941-6800; TLX: 490-000-0073

WESTWARD TECHNOLOGY, INC.
63 Great Rd.
Maynard, MA 01754
617-897-1700; TLX: 951-995

WGE INTERNATIONAL, LTD.
WGE Center, 70 Rt. 202 North
Peterborough, NH 03458
603-924-9261; TLX: 650-220-7113 MCI

WHELAN ASSOCIATES, INC.
Gwynedd Plaza III, Suite 100, P.O. Box 650
Springhouse, PA 19477
215-643-7470

WHITE HERON CORP.
26739 Basswood Ave.
Rancho Palos Verdes, CA 90274
213-378-4429

WHITE SCIENCES, INC.
P.O. Box 24756
Tempe, AZ 85282
602-967-8257

WHITESMITHS, LTD.
97 Lowell Rd., Millbrook Tarry
Concord, MA 01742
617-369-8499; 800-225-1030; TLX: 750-246 SOFTWARE CNCM

WICAT SYSTEMS, INC.
1875 S. State St., P.O. Box 539
Orem, UT 84058
801-224-6400; 800-453-1145; TLX: 910-971-4027

WICO CORP.
6400 W. Gross Point Rd.
Niles, IL 60648
312-647-7500; 800-323-4014; TLX: 284-413

WILD HARE COMPUTER SYSTEMS, INC.
P.O. Box 3581
Boulder, CO 80307
303-442-0324; TLX: 910-940-2518

WILEY PROFESSIONAL SOFTWARE
(division of John Wiley and Sons, Inc.)
605 3rd Ave.
New York, NY 10158
212-850-6009

MARK WILLIAMS CO.
1430 W. Wrightwood
Chicago, IL 60614
312-472-6659; 1-800-MWC-1700; TLX: 910-221-1182 MC CGO

WILMORE ELECTRONICS CO., INC.
P.O. Box 1329
Hillsborough, NC 27278
919-732-9351; TLX: 292-617 WLMR UR

SAM WILSON & ASSOCIATES
P.O. Box 37085
Houston, TX 77237
713-785-7830

THE WINCHENDON GROUP, INC.
P.O. Box 10339
Alexandria, VA 22310
703-960-2587

WIND-2 RESEARCH, INC.
419 Canyon Ave., Suite 315
Ft. Collins, CO 80521
303-482-7145; 1-800-621-8387, Ext. 575

WINDOWDOS ASSOCIATES
Box 300488
Arlington, TX 76010
817-467-4103

WINDOWSOFT
P.O. Box 3774
Laguna Hills, CA 92654
714-581-4511

WINTEK CORP.
1801 South St.
Lafayette, IN 47904-2993
317-742-8428; 800-742-6809; TLX: 709-079

WINTERHALTER, INC.
3796 Plaza Dr., Suite 1
Ann Arbor, MI 48104
313-662-2202; TLX: 234-216

WIZARD SOFTWARE SYSTEMS, INC.
11 Willow Court
Arlington, MA 02174
617-641-2379

WOLF DATA SERVICES, INC.
9 E. Tenth St.
Holland, MI 49423
616-396-3006

WOLFDATA, INC.
187 Billerica Rd.
Chelmsford, MA 01824
617-250-1500

WOLLONGONG GROUP, INC.
1129 San Antonio Rd., P.O. Box 51860
Palo Alto, CA 94303
415-962-7100

P.A. WOOD, LTD.
6759 General Haig St.
New Orleans, LA 70124
504-282-5243

WOODBURY COMPUTER ASSOCIATES, INC.
127 White Oak Lane, CN-1001
Old Bridge, NJ 08857
201-679-0460

WOODCHUCK INDUSTRIES
340 West 17th St.
New York, NY 10011
212-924-0576; 212-206-6490

WOODSMITH SOFTWARE
Route 3, Box 550A
Nashville, IN 47448
812-988-2137

WOOLF SOFTWARE SYSTEMS, INC.
22048 Sherman Way, Suite 106
Canoga Park, CA 91303
818-703-8112

WORDCRAFT
3827 Penniman Ave.
Oakland, CA 94619
415-534-2212

WORDPERFECT CORP.
266 W. Center
Orem, UT 84057
801-224-4000; 1-800-321-4566; 1-800-321-5906; TLX: 820-618

WORDTECH SYSTEMS, INC.
P.O. Box 1747
Orinda, CA 94563
415-254-0900; TLX: 503-599

WORKMAN & ASSOCIATES
1925 E. Mountain St.
Pasadena, CA 91104
818-791-7979

WORLD DISK DRIVES
23501 Ridge Rt., Bldg. D
Laguna Hills, CA 92653
714-855-1761

WORTHINGTON-BABCOCK, INC.
4875 Southwest 19th Dr.
Portland, OR 97201
503-224-0137

WOS DATA SYSTEMS, INC.
455 Austin
Colby, KS 67701
913-462-7581

WOW ENTERPRISES
1500 Middlefield Rd.
Palo Alto, CA 94301
415-327-4369

WRITING CONSULTANTS
(division of Microlytics, Inc.)
300 Main St.
East Rochester, NY 14445
716-377-0130; 800-828-6293; TLX: 650-107-5685

WYMAN ASSOCIATES, INC.
181 Second Ave., Suite 321
San Mateo, CA 94401
415-343-3900

WYSE TECHNOLOGY
3571 N. First St.
San Jose, CA 95134
408-433-1000; TLX: 371-9730

WYSSWARE
5207 Ravenna Ave., NE
Seattle, WA 98105
206-526-0711

X.DOT CORP.
Tenth and Parker
Berkeley, CA 94710
415-540-5000

XEBEC
2055 Gateway Place, Suite 650
San Jose, CA 95110
408-287-2700

XEROX COMPUTER SERVICES
(division of Xerox Corp.)
5310 Beethoven St.
Los Angeles, CA 90066
213-306-4000

XEROX CORP.
Printing Systems Division
880 Apollo St.
El Segundo, CA 90245
213-536-7000

XEROX CORP.
800 Long Ridge Rd., P.O. Box 1600
Stamford, CT 06904
203-329-8700

XEROX CORP.
Printing Systems Division
901 Page Ave., P.O. Box 5030
Fremont, CA 94537
415-498-7000; 800-227-2776; 800-972-5217 (CA); TLX: 337-656

XI SYSTEMS TECHNOLOGY, INC.
P.O. Box 46126
Cincinnati, OH 45246
513-771-6263

XICOM TECHNOLOGIES CORP.
1015-130 Slater St.
Ottawa, Ontario, CD K1P 6E2
613-238-4744; TLX: 053-3303
XICOM OTT

XIDEX CORP.
P.O. Box 3418
Sunnyvale, CA 94088
408-988-3472; TLX: 910-379-5054

XIOX CORP.
577 Airport Blvd., 700
Burlingame, CA 94010
415-571-7911

XIPHIAS
13470 Washington Blvd., Suite 201
Marina Del Rey, CA 90291
213-821-0074

XIRIS CORP.
P.O. Box 787
New Monmouth, NJ 07748
201-671-0517

XTAR ELECTRONICS, INC.
2262 Landmeier Rd.
Elk Grove Village, IL 60007
312-364-4111; TWX: 910-380-7194

XTEND COMMUNICATIONS
171 Madison Ave.
New York, NY 10016
212-725-2010

XTRATEK CORP.
P.O. Box 7622
Atlanta, GA 30357
404-875-8100

XTRON COMPUTER EQUIPMENT CORP.
19 Rector St.
New York, NY 10006
212-344-6583; 800-854-4450; TLX: 226-223 TARO UR

XYNETICS PRODUCTS
(unit of General Signal Corp.)
2962 Stender Way
Santa Clara, CA 95051
408-988-4549; TLX: 910-338-0500

XYPLEX, INC.
100 Domino Dr.
Concord, MA 01742
617-371-1400; TLX: 910-380-4463
XYPLEX INC

XYTON, INC.
1556 Halford Ave., Suite 234
Santa Clara, CA 95051
408-296-1966; TLX: 289-980
XYTON UR

XYZTEK CORP.
P.O. Box 11190
Pueblo, CO 81001-0190
303-850-9400

YALE UNIVERSITY COMPUTER CENTER
175 Whitney Ave., Yale Station,
P.O. Box 2112
New Haven, CT 06520-2112
203-436-7700

YES SOFTWARE, INC.
10991 Shellbridge Way, No. 390
Richmond, BC, CD V6X 3C6
604-270-4152

YOKOGAWA CORP. OF AMERICA
2 Dart Rd.
Shenandoah, GA 30265
404-253-7000

YORK ST. SOFTWARE
Datamaster Corporation Ltd.
414 York St.
Fredricktown, New Brunswick, CD E3B 3P7
506-458-8877

YOURDON CORP.
1501 Broadway
New York, NY 10036
212-391-2828; TLX: 234-972

ZANTHE INFORMATION, INC.
1200-38 Antares Dr.
Nepean, Ontario, CD K2E 7V2
613-727-1397; 800-267-9972

ZEBRA SYSTEMS
875 Leif Erickson Lane
Foster City, CA 94404
415-341-2011

ZEDCOR
4500 E. Speedway, Suite 93
Tucson, AZ 85712
602-795-3996; 800-482-4567

ZEDUCORP
P.O. Box 68
Stirling, NJ 07980
201-755-2262

ZEILER-PENNOCK, INC.
2727 Bryant St.
Denver, CO 80211
303-455-3322

CARL ZEISS, INC.
One Zeiss Dr.
Thornwood, NY 10594
914-747-1800

ZENITH DATA SYSTEMS
(subsidiary of Zenith Electronics Corp.)
1000 Milwaukee Ave.
Glenview, IL 60025
312-391-8860

ZENOGRAPHICS
19752 MacArthur Blvd., Suite 250
Irvine, CA 92715
714-851-6352; 800-423-3705; TLX: 883-006

ZEPHYR SERVICES
306 S. Homewood Ave.
Pittsburgh, PA 15208
412-247-5915

ZETRATEC CORP.
9460 Wilshire Blvd., Suite 520
Beverly Hills, CA 90212
213-276-6007

ZIASOFT, INC.
P.O. Box 55414
Grand Junction, CO 81505
303-241-0308

ZIATECH CORP.
3433 Roberto Court
San Luis Obispo, CA 93401
805-541-0488; TLX: 499-2316 ITT

ZIYAD, INC.
100 Ford Rd.
Denville, NJ 07834
201-627-7600; TLX: 136-024

Z-NIX CO., INC.
9537 Telstar Ave., Suite 121
El Monte, CA 91731
818-575-3700

ZOBEX
10845-A Wheatlands Ave.
Santee, CA 92071
619-562-9306

ZOOM TELEPHONICS, INC.
207 South St.
Boston, MA 02111
617-423-1072; 800-631-3116

ZORTEC, INC.
15 Office Park Circle
Birmingham, AL 35223
205-871-4194

Z-SOFT CORP.
1950 Spectrum Circle, Suite A-495
Marietta, GA 30067
404-980-1950

ZYLAB CORP.
233 E. Erie
Chicago, IL 60611
312-642-2201; 800-544-6339; TLX: 383-422 ZYLAB

PRODUCT GUIDE ADDENDUM

Since our editorial deadlines passed, a number of companies have added products or made changes that we were unable to include in the main listings of the *Directory* product guide. A few companies were left out entirely. These companies and their products are listed below.

ALPHA COMPUTER SERVICE, INC.
5300 Orange Avenue
Cypress, CA 90630
714/828-0286
Forlib-Plus
Strings and Things
For-Winds
ACS Time Series
FORTRAN Scientific Subroutine Package

BURR-BROWN CORPORATION
P.O. Box 11400
Tucson, AZ 85734
602/299-2662
PCI20041C-3 DMA Carrier Board
PCI20041C-2 DMA Carrier Board

CRACKERJACK MICROSOFTWARE CORPORATION
200 Bay Street
P.O. Box 86
Toronto, Ontario, CD M5J 2J2
416/920-7879
JACK
The *C*
BEYOND

CRESCENT SOFTWARE
64 Fort Point Street
East Norwalk, CT 06855
203/846-2500
QuickPak

CUSTOM SOFTWARE SERVICES
7 Hampton Road
P.O. Box 678
Natick, MA 01760
617/653-2555
PC/VI Full Screen Editor

DATA MANAGEMENT CONSULTANTS
5325 S. Valleyview Blvd., Suite 7
Las Vegas, NV 89119
702/798-5910
800/423-0930 (sales only)
ZVIEW

DESKTOP AI
1720 Post Road East
Westport, CT 06880
203/762-2511
dBx Translator
(with Library)

DIALECTIC SYSTEMS, INC.
1930 East Marlton Pike, Suite L-60
Cherry Hill, NJ 08003-2148
609/424-0140
SoftScreen/HELP

DYNAMUS MICRO-DATA SYSTEMS, INC.
1045-T Gravel Road
Webster, NY 14580
716/671-5866
ZIPcalc

ESP SOFTWARE
11965 Venice Blvd., Suite 309
Los Angeles, CA 90066
213/390-7408
Command Plus

FULCRUM COMPUTERS
459 Allan Court
Healdsburg, CA 95448
707/433-0202
Fulcrum Trackball Plus

ICON SYSTEMS & SOFTWARE, INC.
774 S. 400 East
Orem, UT 84058
801/225-6888
MPS 020-2 high-end microcomputer

JONSOG ASSOCIATES
8334 Sperry Court
Laurel, MD 20707
301/498-3012
DEMO-GRAPHICS WRITER

KORROS DATA OF AMERICA, INC.
797 San Antonio Road
Palo Alto, CA 94303
415/858-2866
Industrial AT Systems

MARK CURL COMPUTER GROUP, INC.
1327-B Broad River Road
Columbia, SC 29210
803/798-3424
Optimation Management System
Video Tracks
DBS-Dental Business System
POSSE Law Enforcement System

MARSHAL LANGUAGE SYSTEMS
1136 Saranap Avenue, Suite P
P.O. Box 2010
Walnut Creek, CA 94595
415/947-1000
Marshal Pascal

METAGRAPHICS SOFTWARE CORPORATION
4575 Scotts Valley Road
Scotts Valley, CA 95066
408/438-3554
TurboWINDOW
MetaWINDOW
MetaFONTS

METHOD SYSTEMS, INC.
3511 Lost Nation Road
Willoughby, OH 44094
216/942-2100
PCT-100 Programmable Communications Translator

NANOSOFT
13 Westfield Road
Natick, MA 01760
617/651-0091
MultiDOS
MultiDOS Plus

NETWORK RESEARCH CORPORATION
2380 N. Rose Avenue
Oxnard, CA 93030
805/485-2700
FUSION Network Software VERSION 3

PALTRIDGE, INC.
Princeton Corporate Center
3 Independence Way
Princeton, NJ 08540
609/734-4990
ComPucro

PROGRAMMERS CONNECTION
136 Sunnyside Street
Hartville, OH 44632
216/877-3781
800/336-1166
Mail Order Service

PRO-LOG CORPORATION
2560 Garden Road
Monterrey, CA 93940
408/372-4593
System 1
System 2
System 3
STD-LIB

SOFTWARE MASTERS
2714 Finfeather
P.O. Box 3638
Bryan, TX 77805
409/822-9490
The Visible Computer

SPENCER ORGANIZATION, INC.
P.O. Box 248
Westwood, NJ 07675
201/666-6011
Multi-APL

SPRUCE TECHNOLOGY CORPORATION
189 E. Bergen Place
Red Bank, NJ 07701
201/741-8188
FirsTime

STONY BROOK SOFTWARE
Forest Road
Wilton, NH 03086
603/654-2525
The Watcher

STORAGE DIMENSIONS, INC.
14127 Capri Drive, Suite 1
Los Gatos, CA 95030
408/370-3304
SpeedStor

ZENOSOFT
1454 6th Street
Berkeley, CA 94710
415/525-3113
Zenocopy-PC

ADDITIONAL PRODUCTS

ACS INTERNATIONAL, INC.
2105 Luna Road, Suite 330
Carrollton, TX 75006
214/247-5151
ACS-EGA1
EGA2
ET-286plus Board
MD-80
TOWER.PAC 10
TOWER.PAC 12

C WARE CORPORATION
505 W. Olive, Suite 767
Sunnyvale, CA 94086
408/720-9696
DeSmet D88 Debugger
SEE Full Screen Editor

FAIRCOM
2606 Johnson Drive
Columbia, MO 65203
314/445-6833
r-tree

GOLD HILL COMPUTERS
163 Harvard Street
Cambridge, MA 02139
617/492-2071
GCL RUN
GC LISP NETWORK-TCP/IP
GC LISP NETWORK-Chaosnet
GOLD HILL 386 DEVELOPERS/ HUMMINGBOARD
ACORN

HAUPPAUGE COMPUTER WORKS, INC.
358 Veterans Memorial Highway
Commack, NY 11725
516/360-3827
287 FaST8
287 FaST10
87 QuickBASIC Pak
87 Software Pak
HFT+
Calculus

INTEL CORPORATION
Personal Computer Enhancement Operation
5200 N.E. Elam Young Parkway
Mail Stop TOD-07, MARCOMM Dept.
Hillsboro, OR 97124
503/629-7369, in Oregon
800/548-4725
8087 Math Coprocessor
80287 Math Coprocessor
80386 Micro Coprocessor

LIFEBOAT ASSOCIATES, INC.
55 South Broadway
Tarrytown, NY 10591
914/332-4545
ADVANTAGE C++
ADVANTAGE Link
RUN/C Professional
Panel
BetterBASIC
Greenleaf Comm Library
Greenleaf Functions

MICROCOMPATIBLES
301 Prelude Drive
Silver Spring, MD 20901
301/593-0683
Grafmatic & Plotmatic Set

PERSONAL COMPUTER SUPPORT GROUP, INC.
11035 Harry Hines Blvd., Suite 207
Dallas, TX 75229
214/351-0564
BREAKTHRU 286

SEATTLE TELECOM & DATA, INC.
12277 134th Court, NE
Redmond, WA 98052-2429
206/883-8440
STD-386 16 MHz

SOFTWAY, INC.
500 Sutter Street, Suite 222
San Francisco, CA 94102
415/397-4677
HIGH SCREEN

TURBOPOWER SOFTWARE
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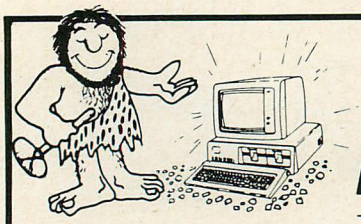
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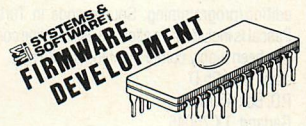
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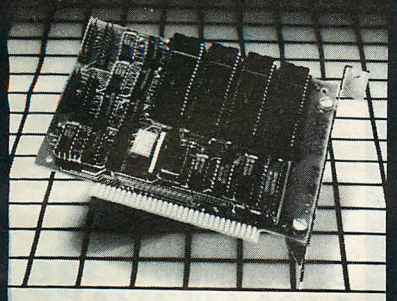
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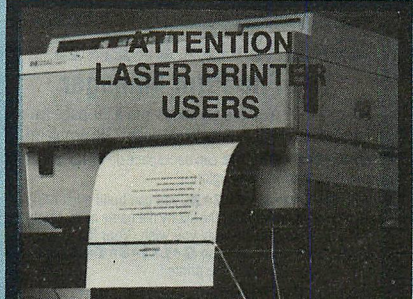
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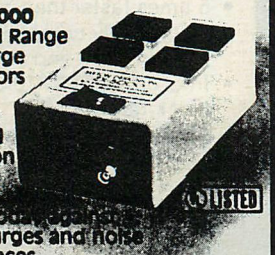
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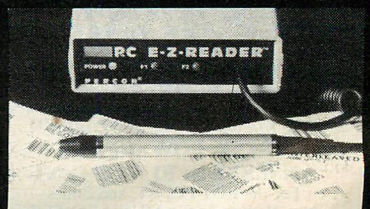
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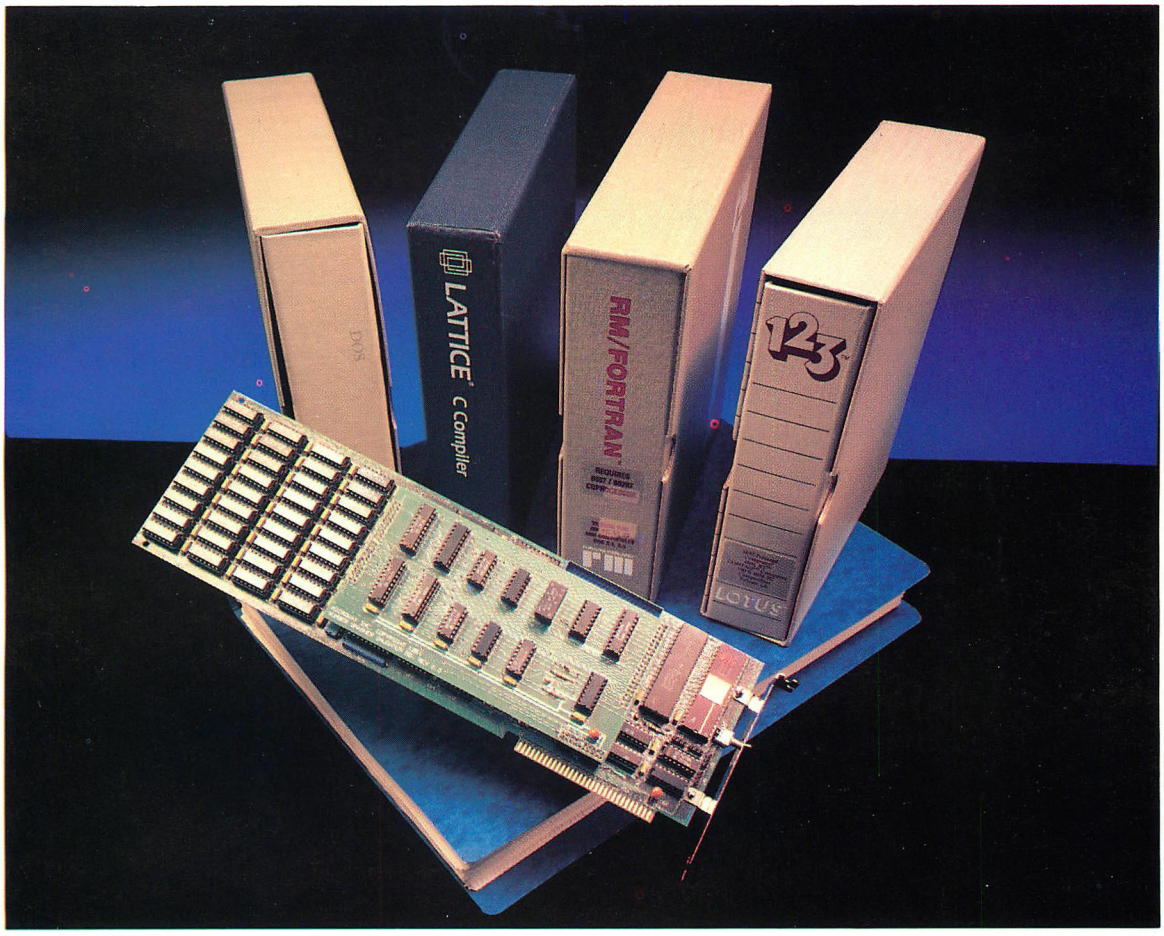
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